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Railway Age

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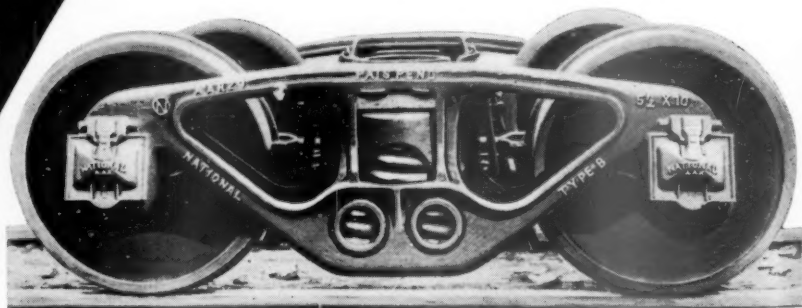
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Vol. 103

December 25, 1937

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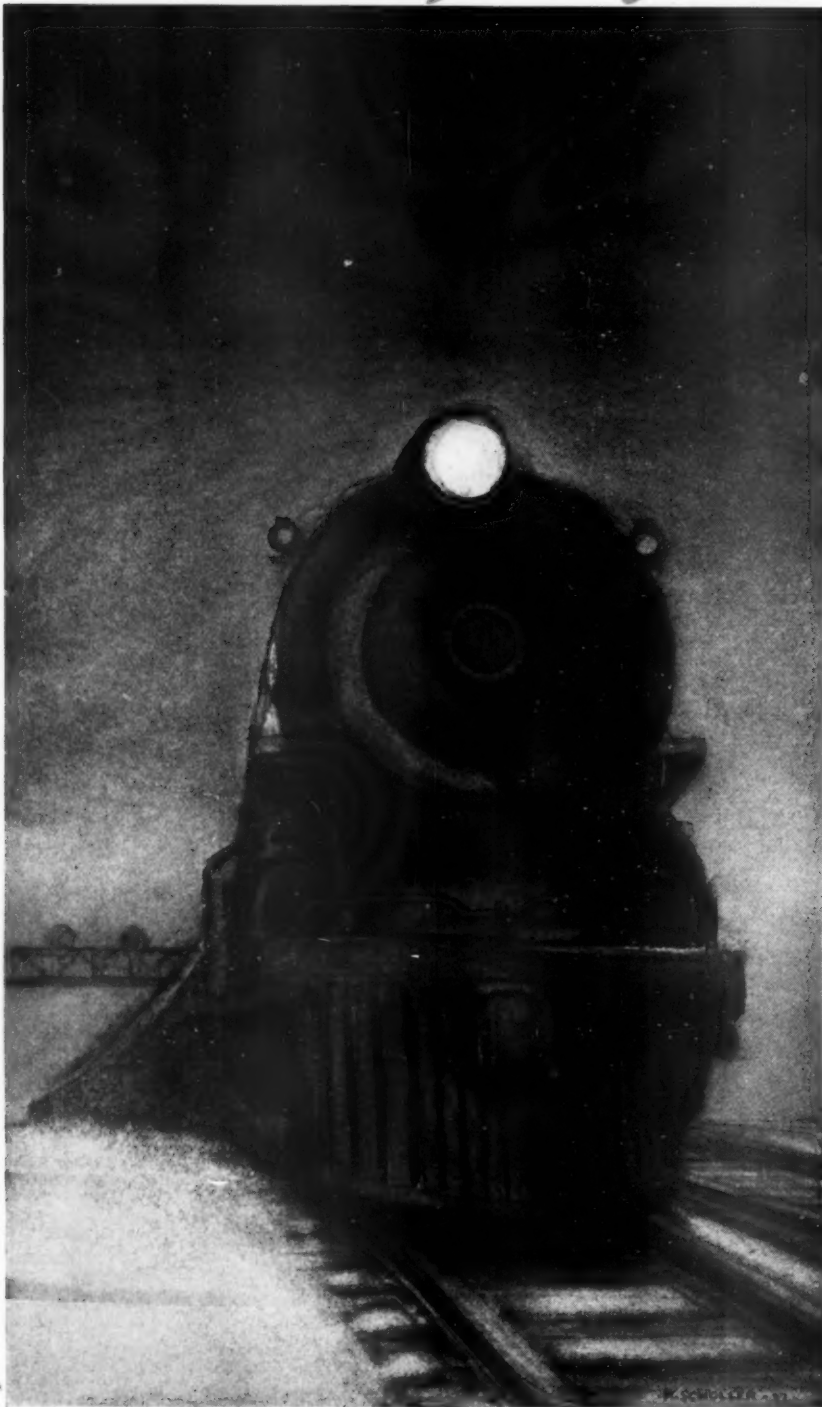
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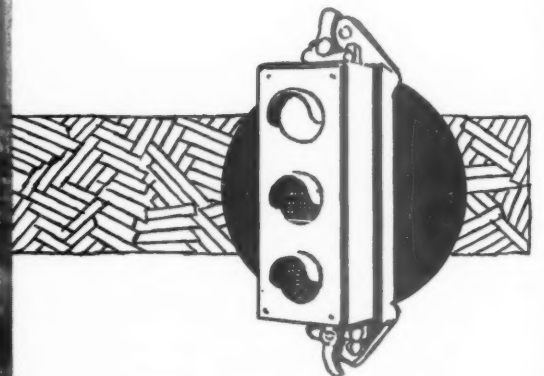
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The Week at a Glance

CARLOADINGS: Cars loaded in the December 11 week totaled 622 thousand—down 15.8 per cent under last year. The decline from last year appears to be steadily, though slowly, easing off.

ENOLA CAR RETARDERS: The Pennsylvania has contracted for the installation of an electro-pneumatic car retarder system in its eastbound classification yard at Enola, Pa.

EQUIPMENT INQUIRIES: The Western Maryland has issued an inquiry for 1,100 freight cars and the Canadian National is asking for bids on six locomotives, 24 snow plows, 5 mail and express cars (16 more passenger cars in prospect) and 2,000 box cars.

CITY OF L. A. TAKES BOW: The resplendent and luxurious new streamliner of the North Western and the Union Pacific was on exhibition in Chicago and New York last week prior to making its maiden run in commercial service (New York to Sun Valley with a party of ski enthusiasts). Some 18,000 Chicagoans and 60,000 New Yorkers availed themselves of the opportunity to get a good look at the job.

N. P. EXPANDS IN MONT.: The Northern Pacific has steadily extended its highway operations in Montana (details in an article herein) until now practically all rail points are also served by its motor lines. By co-ordinating highway service with its trains, the company has speeded up merchandise service to this section by as much as 24 to 36 hours—and all leading jobbers are given overnight service throughout their trade territories.

GREYHOUND ANATOMY: The make-up of the country's largest bus system is dissected in an article in the Motor Transport Section herein—showing the relationship of the top holding company to the 13 operating companies and their various other subsidiaries, in some of which ownership is shared by railroads.

RECORD LOCO RUN: A Santa Fe steam locomotive recently ran all the way through from Los Angeles to Chicago, 2227 miles, on a regular passenger run, making what is believed to be a record for a continuous run by a steam locomotive. The run, and steps taken to assure its success, is described elsewhere in this issue.

FRISCO BUDGET: The federal court at St. Louis has approved an "emergency" improvement budget of the trustees of this company, under which expenditures totaling about 3½ millions are contemplated.

THE OUTLOOK: The decline in freight car loadings appears to have been arrested. Washington authorities are hopeful that their plans for a resumption of residential building are going to bear fruit, which should bring a substantial revival in freight traffic. The prospect that rate in-

creases will be forthcoming is excellent. These are some of the factors in the present railway situation which are discussed in the leading editorial herein, which weighs the prospects of the industry for the immediate future.

PULLMAN RATES: The Pullman Company presented its case for a 10 per cent rate increase to the I.C.C. at a hearing in Washington this week. Cross-examination was deferred until the Chicago hearing, to be held January 10. Commissioner Aitchison questioned President Crawford at some length on the reason why the Eastern railways have failed to offer tourist sleeper service.

UNCLE SAM'S BARGES: The President last week told his press conference that he could see no reason for selling the Federal Barge Line to private interests as long as it is operating in the black. The line was established, it will be remembered, not as a government excursion into private business, but merely to "demonstrate" to private business that barge operation could be made to pay.

COST FINDING: If "costs" of rival agencies of transportation are to be used in regulating rates on competitive traffic, then total costs of highway and water carriers (including those paid by taxpayers) must be taken into account—that is, if regulation is to serve the broad public interest. This is the contention of an editorial herein, which analyzes some of the implications of the I.C.C.'s renewed interest in cost finding.

SNOW TRAINS READY: The railroads, particularly in the Northeastern section of the country, are all set for a heavy ski-train business—and with the ballyhoo of the department stores to help them, they will probably succeed, if only the weather man will be somewhat more considerate this year than he was last.

FIREMEN AFTER BUS DRIVERS: The National Labor Relations Board has ordered an election among bus drivers of Pacific Greyhound to see whether they desire the B. of L. F. & E. or the Street Railway Employees' Union to represent them. The N. L. R. B. says the company signed up with the Street Railway union despite the fact that the B. of L. F. & E. claimed a majority of the drivers, and that the company encouraged its employees to join the Street Railway union and discourage their joining the Firemen.

NEW TRAINS PROSPER: The Milwaukee's "Hiawatha" has shown an increase in business over the comparable month of the preceding year ever since it began operation in 1935. The Rock Island's "Rockets" are handling about 200 people per train per day. The Southern Pacific's "Daylights" are hauling 738 passengers a day and earning better than \$5 a train-mile.

NEW ROYAL BLUE: The B. & O.'s new equipment for its luxurious "Royal Blue" service between Washington and New York (art designing by Otto Kuhler) is described in an illustrated article herein—indicating how thorough a job of modernization can be done with standard equipment. The cars were given oval roofs, wide diaphragms and skirting beneath, while each car has individuality in furnishings, standard styles being used, however. The locomotive has not only had streamlining applied, but has been given a semi-watertube firebox and has had its boiler pressure and tractive force increased. The livery in which the train appears is not blue only—but battleship gray and black as well, with lettering and striping in gold.

TRUMAN CUTS LOOSE: The Senator from Missouri, who has been pinch-hitting for Senator Wheeler in his keyhole expedition into railroad financing, told the Senate this week what is wrong with the railroads. Apparently, in his opinion, there is plenty—reorganization practices being, he said, "the biggest racket on earth." High points of the Senator's strictures are reported in the news pages herein.

R. F. C. SAYS "WELCOME": Old customers among the railroads of Mr. Jesse Jones' famed lending agency are welcome there if and when they need to go. Mr. Jones is a strong supporter of the proposed rate increase and told reporters, questioning him one day last week, that if it were not forthcoming by April the railroads would be "out the window."

CHEAP MONEY: The bargain days for equipment financing are still with us. The Santa Fe this week sold an issue of \$3,900,000 certificates bearing only 2¼ per cent interest at a premium of 1.5719, and the successful bidder apparently had customers waiting—because no public offering will be made.

CLEMENT GETS A PHOTO: At Senator Wheeler's investigation into P.R.R. financing last week, a photographer showed him some pictures of himself and President Clement of the P.R.R. said he'd like to have one. So the Senator obliged, inscribing the photo "From one farm boy to another." About all the Senate probe was able to bring out during the past week was the extreme difficulty—and chance for large losses—of effecting consolidations, which some people appear to believe is a panacea for all railway ills.

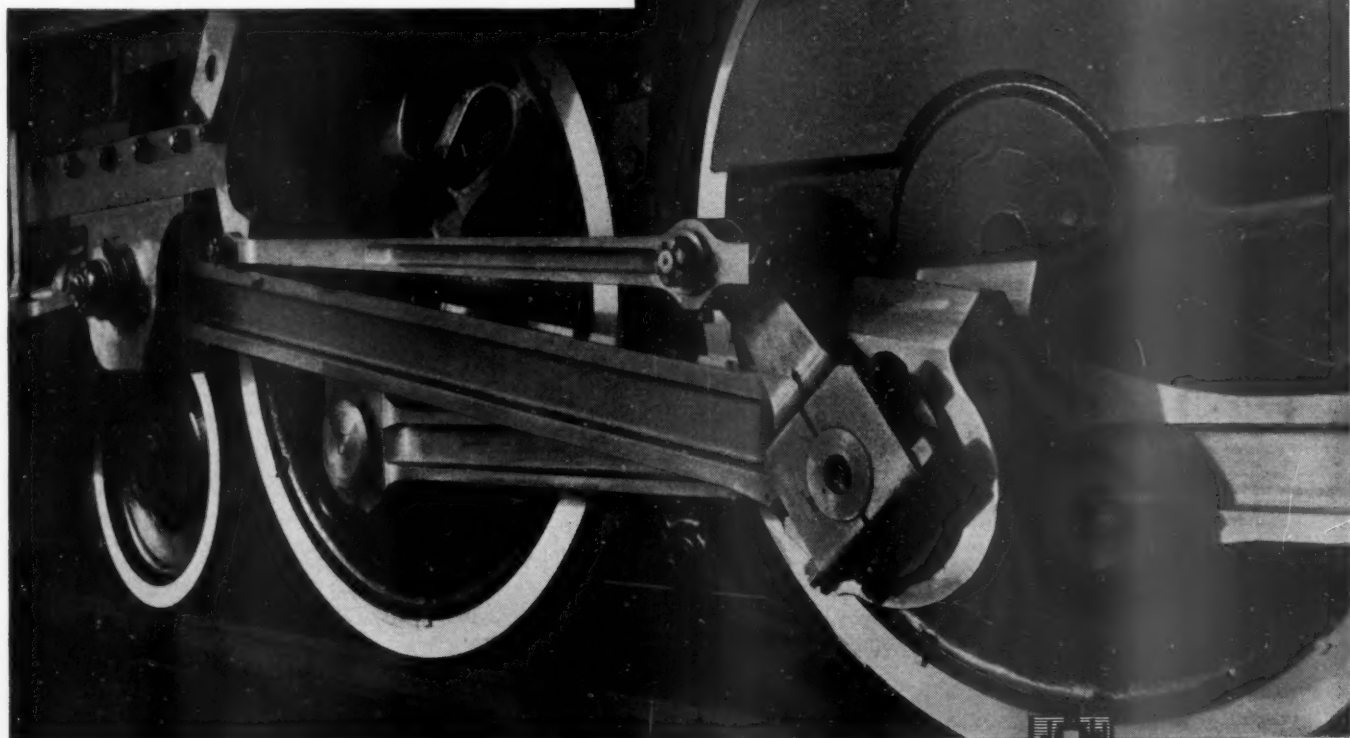
FORWARDER ARGUMENTS: Oral argument on the I.C.C.'s proposed report (by Examiner Trezise) on the status of forwarders was heard on December 22 at Washington. The Commission's Attorney Walsh questioned how forwarders helped meet highway competition when their average haul is 750 miles, while T. P. Healy (for the N.Y.C.) defended the superior economy of entrusting I.C.I. handling to "experts."

CENTRIFUGAL FORCE *Killed Goliath*

It wasn't the little pebble that David threw that slew Goliath—it was the centrifugal force imparted to the pebble by David's sling that did it. » » »

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What Does the Future Hold for the Railroads?

At the season of the year when good will among men receives its meed of praise, in word if not in deed, it is encouraging to observe that the railroads are now the beneficiaries of this attitude to an extent rare in their experience. If an actively friendly concern for the welfare of the industry on the part of an overwhelming majority of the articulate and responsible public means anything whatever toward the solution of the difficulties the railroads face, then certainly the industry is headed for better times. Let us review some of the manifestations of this feeling about the railroads, and see whether, in the face of them, there is any warrant for pessimism about the outlook.

A Rate Increase by Acclamation?

1. The support for the proposed increase in freight rates is practically unanimous, even on the part of most of the shippers who will have to pay the bill. The President and the chairman of the Reconstruction Finance Corporation have indicated Administration approval of the railroads' petition to the furthest degree which the proprieties of the situation permit to them. The counsel for the shipping interests who are most opposed to the increase has indicated his approval of the substance, if not the form, of the carriers' search for more revenues. Rival agencies of transport have expressed their intention of matching the increase the railways are seeking, so that a rate rise, if granted, should not lead to the diversion of traffic. And, climaxing the whole situation, is the Interstate Commerce Commission's advancing the hearings in the case, giving assurance of a speedy disposal of it.

2. Senator Wheeler last week indicated that he would no longer attempt to put obstacles in the way of the Pettengill bill. In spite of his opposition to it, he predicted that the bill would be reported by the Senate Interstate Commerce Committee, and that it would be passed by the Senate.

Labor's Attitude More Helpful

3. There are growing indications that organized railway labor is realizing that it must share responsi-

bility for the net earnings of the railway industry, and that adequate net earnings are necessary for the industry—not alone in the interest of its owners, but in that of its employees as well. The proposal of David B. Robertson for a conference of the various interests, including labor, on methods to increase the profitability of the railroads is one indication of this attitude. The statement of George M. Harrison on the viewpoint of organized labor regarding proposed rate increases is another.

4. If one goes around Washington, as *Railway Age* staff members do constantly, on every hand in official circles will be heard recognition: (a) Of the necessity of normal buying by the railroads to a normal volume of business and employment in the country; and (b) Of the fact that railroads cannot buy normally and employ labor in normal volume unless their net earnings are likewise permitted to return to normal. There is no one in the country (save out-and-out revolutionists), be he pro-New Deal or otherwise, who does not desire an early end to the present recession in business. Thus it is that a recognition of the necessity of railroad profitability to increasing industrial production and employment is a development of genuine significance.

(5) The attitude of Administration officials, as well as leaders in Congress, toward the modification of the undistributed profits tax in those respects wherein it is working a hardship on the railroads is most favorable.

Wheeler Group's Changed Objective

(6) The activity of the Wheeler sub-committee which so far has been to pillory the railroad industry of today for sins of a few of its members in the past is to be changed into a constructive search for means to improve the earning power of the industry. (Incidentally, in a recent "off-the-record" discussion one of the Washington political leaders who has gained a reputation as a "railroad baiter" made it very clear to his audience that he differentiates between the managers who operate the railroads and the outside lawyers and financiers who have at times victimized them. This distinction is, of course, of the utmost importance, since heretofore

managements and owners have generally borne the stigma of misdeeds in which they did not share and which they were powerless to prevent.)

Where there is a will, there is a way: this is an ancient truism. The will to make the railroad industry one of at least sufficient profitability to enable it to continue in private operation appears to exist now as a dominant part of the policy of every interest of any power in our economic and political life. Since this will exists, and appears to have genuine vitality, it requires a pessimistic disposition indeed to be hopeless of the future of the railroads.

Prospective Revival of Home Building

There is, to be sure, still left for consideration the probable trend of general business. Higher rates will help the railroads whether business improves or not, but will, of course, help them more if business improves. Most competent observers believe that the current recession will not be prolonged. This view is supported by the recent trend of freight loadings, which indicate the recession already has stopped. The decline of freight loadings from 16.3 per cent larger than in 1936 in May to 18 per cent smaller than in 1936 in the week ended November 20 was relatively the greatest decline that ever occurred in the same length of time. Not only did their decline stop then, at least temporarily, but their trend has since been slowly upward. In the subsequent three weeks they were 17.8 per cent, 16.3 per cent and 15.8 per cent less than in 1936.

Later developments may show these figures are deceptive, but, taken at their face value, they are encouraging. In the week ended December 18 steel activity showed almost no decline for the first time in four months; commodity prices showed little change, and common stock prices rose slightly. A rate increase for the railroads would itself tend to increase railroad buying, and hence the volume of traffic moving. Washington authorities bent on stimulating home building (as distinguished from slum clearance) are hopeful, and apparently with good reason, that their efforts are going to be rewarded—and no one development could do so much to aid railroad traffic as would a wholesome revival in residential construction. (Perhaps the most encouraging occurrence in connection with this program has been the willingness in one or two instances of organized building labor to forego high hourly wages in return for assurance of continued employment).

Threat of Train Limit Legislation

There still remains the threatened train limit bill to plague the outlook of the railroads. We would not for a moment blink the danger of this measure. That it would hasten further railroad bankruptcies is unquestionable. It is essential, therefore, that the carriers present the very best case against this racketeering measure of which they are capable—and we have

no doubt that they will. If they do so present their case it seems doubtful in the extreme that the train limit bill can become a law. Thoroughly awakened as Congress and the Administration are to the plight of the railroads, it would be too inconsistent even for politicians to pass a "death sentence" measure such as this one. Furthermore, we doubt the sincere support of this measure by the rank and file of organized railway labor, even that of the organizations which supposedly would benefit directly from it.

This bill is an anachronism—a hang-over from the days when the railroads were a monopoly, and when the cost of any make-work bill the unions could force through was passed along to railway patrons. Under present conditions railway labor would suffer along with railway owners if legislation such as this were enacted. And if the House Committee's hearings are as thoroughgoing as we believe they will be, facts against this measure are bound to appear in such volume that its passage by a body of sane and self-respecting legislators would be all but impossible. Let us then be alert to this menace, but not cowed by it.

How Much More Costly "Reform"?

The disposition of Congress to put recovery on its program ahead of so-called reform is clearly indicated by its sending back to committee the wages and hours limitation bill. The country is, apparently, therefore going to be spared the suffering which would ensue from an effort artificially to shorten hours and increase wages at a time when industry cannot foresee a profit even at the present level of hours and wages. If business people, and those with money to invest, do not take heart from this action by Congress, and gradually, as a result, loosen the purse-strings which will start business and employment upward once more, we miss our guess. Then, too, there is the opinion of one of the ablest journalists in Washington—a biographer of the President—that the New Deal's "reform" program is now virtually complete; that it has no more measures in prospect of a kind likely to block further recovery.

Another aspect of the business outlook which is most promising is the apparently friendly discussion now actively going forward between the Administration and the electric utilities looking toward settling some of the differences which have arisen between them, and which have prevented the utility industry from investing money to expand and improve its service. Here again, there appears to be a will on the part of both parties to the discussion to make the conferences succeed. If they do succeed, the inevitable result will be a huge volume of new investment in utility enterprises which will be reflected in a larger volume of traffic moving by rail. Increased expenditure for home building and for utility expansion appear, therefore, to be definite probabilities.

Courage to follow through and act vigorously regarding all the tendencies which promise a better day

for the railroads appears to be the surest means of bringing these tendencies to actual fruition. The industry has by its behavior in the face of difficulties, and by its vigor and skill in presenting its case to the public, prepared the way for just such a friendly public attitude as has now taken concrete form. Only once before has there been so little public opposition to a large advance in railway rates. This was in 1920, when, because of different conditions, the lack of opposition was much less significant than it is now. The nation then actually had government operation and greatly wanted to get rid of it; it was very prosperous; and prices were the highest in history. It is favoring a large advance in rates now when there is only the danger of government operation, when it is in the midst of a severe business recession and when prices, while high compared with 1932, are low compared with 1920.

Benefits of Good Service and Public Relations Work

There could be no more complete proof of the beneficial effects upon public sentiment produced by the improvements in service that have been made and by all the various kinds of public relations work that have been carried on for many years. But experience has shown that the most favorable public sentiment is valueless if, after it has been created, those responsible for finally getting railway results do not appeal to and rely upon it. The times and observable facts call for hope and for courageous action. If railroad leaders will display these qualities now, there is no reason whatever why they should not be speedily and richly rewarded.

Cost Finding Again

The reason ascribed for the revival of an effort to introduce cost accounting on the railroads is that cost data are needed for regulatory purposes—primarily as a “yardstick” for the fixing of rates on traffic for which two or more of the several agencies of transport are competing. That is to say (so the argument seems to go), the regulatory authorities ought not permit, in the public interest, one form of transport to make rates without proper regard to the costs of its service and thus take traffic away from a rival agency which is entitled to the traffic on a basis of true economy.

Superficially, this argument is plausible. A free economy—that is, one operating without monopoly and without government interference—works out in such a way that economic goods and services are provided by those agencies which can produce them at the lowest costs. The true function of government regulation is to provide insofar as possible, under conditions of partial monopoly, the price policies which will promote the highest production at lowest total cost—a condition achieved automatically in a free economy. If, there-

fore, any conceivable method of cost analysis would give the regulatory authorities reliable figures on true comparative costs, its adoption would unquestionably be worthy of serious consideration.

But what are costs? If the Commission proposes to compare merely the *expenses* involved in transporting a shipment of freight, say, from New York to Buffalo via the New York Central, the New York State Barge Canal and by the best highway route between those points, its findings will be absolutely meaningless from a social point of view. The true economic cost of the shipment by waterway includes not only the cost of operation of the barges, but a share also of capital and maintenance charges for the water route and the equivalent of taxes on the investment therein. Similarly to determine the true costs of highway transport, it is not sufficient merely to ascertain the expenses of the highway operator, but the contribution of the general taxpayers as well must be included—not only their direct payments for the provision of highways, but the remission of taxes on the investment in highway facilities.

The I.C.C. in the performance of its regulatory functions is the trustee of the public interest. If it proposes to set up rate barriers between the several agencies of transport based upon total costs of one agency but only a part of the true costs of other agencies, then how can these barriers serve truly the national economy? Overall costs of railroad service are well known. Such costs of rival agencies of transport are not known—or at least are not officially recognized. We fail to see how anything of social value for more scientific or fairer regulation can be achieved by a detailed examination into railroad costs, while not even an official guess is made at overall costs of competing agencies of transport.

But suppose the Commission should enlarge its inquiry to include an examination into the real costs of all forms of transport—and not merely the expenses of transport agencies—even then its difficulties will only have begun. Reverting to the New York-Buffalo area again, which is served by several rail carriers, some of which will have higher costs and others lower: If rail rates are based by regulatory authority merely on an *average* of the costs of the several railroads, then quite likely the railroad with the lowest costs might be prohibited from competing for traffic which it could handle more economically than a rival agency of transportation. Under such circumstances, the regulatory authority would quite clearly be intervening to shift traffic from a more economical agency to one less economical. Wherein would that promote the public interest?

Prices of freely competitive products are not determined solely by their cost of production. The demand for them, and the price that purchasers are willing to pay, is also a factor in determining market price. If anyone contends that under regulation the demand factor should be left entirely out of account in the determination of the price to be charged for transportation, then the burden of proof must be on him.

Baltimore & Ohio Installs New Royal Blue Train



Pacific type locomotive and eight cars streamlined as a unit—Simple elements of modern interior design effectively used—Lighting effects unique

EARLY in September the Baltimore & Ohio placed in service on the Royal Blue run between New York and Washington a newly furnished and decorated train of eight cars. The exterior of the train is finished with streamline styling, including full-width diaphragms between the cars and inwardly curving skirts extending below the sides to conceal equipment suspended from the underframe. On December 9 the train was completed by placing in service with it a fully streamline steam locomotive of the Pacific type.

The train is made up of a combination baggage-smoker, three coaches, a combination lunch-counter-coach, a dining car, a parlor car and a cocktail lounge-observation car. The smoking compartment seats 36; the first coach, 68; each of the two following coaches, 54, and the passenger compartment of the lunch-counter-coach, 28—a total of 240 coach passengers. The parlor car has seats for 26 in the main passenger compartment and for six in the drawing room. There are seats for 14 at the lunch counter and for 44 in the dining car. The cocktail-lounge-observation car has seats for 42.

The cars in this train were converted from cars of conventional body construction, carried on six-wheel trucks with snubbed-type equalizer springs. For the Royal Blue service they were completely reconditioned in the Mt. Clare shops of the railroad. The work included the application of oval roofs (without lowering the ceilings), wide diaphragms and the skirting below the

sides. The streamline styling of the locomotive and the designs for interior architectural treatment, decoration and arrangement of facilities were developed by Otto Kuhler, consulting engineer of design of the railroad.

The furnishing and decorating of this train are unique in that distinctive individuality has been attained in each of the eight cars constituting the train with a minimum of variation in the selection of upholstery material and floor coverings and close adherence to commercially available standard types of furniture. A uniform, neutral wall color is employed throughout the train, but distinctiveness of character is attained in each car by the variation in decorative striping and upholstery colors. With the exception of the diner and cocktail lounge, aisle strips and carpets are of a single neutral pattern, relieved by touches of color. The general illumination throughout the train is effected by molded-plastic fixtures which transmit the maximum of direct illumination to the reading plane while at the same time producing an unusual architectural effect.

Decorative Treatment of the Coaches

Throughout the train the ceilings are ivory, except in the diner and lunch-counter car, the side walls pearl gray, and the window sills black. A jasper linoleum in neutral gray taupe covers the coach floors. The coaches are fitted with Heywood-Wakefield double-rotating type

seats with individual reclining backs. In the smoking compartment of the first car the seats are upholstered in brown leather. A brown tone is given to the entire interior of the car by employing this color in the decorative striping which is used at the base of the clerestory, above the windows, and in the trim at the lower margin of the pearl-gray window shades. The same color is also repeated on the wainscoting below the windows.

Each of the three coaches has a distinctive color scheme similarly obtained by repeating the upholstery color in the striping and wainscoting. The upholstery in the coaches and parlor-car chairs, smoking-room chairs and in the observation lounge are of Chase uncut-pile mohair in a ribbed pattern. In the first coach this material is dyed a soft green. In the second coach the color is rust and in the third, taupe brown. The aisles in the coaches are carpeted. The pattern is conservatively modern and is woven in a two-tone check of neutral gray with small rust-colored bars repeated at regular intervals.

The parlor car, which is located immediately behind the diner, is fitted with Heywood-Wakefield rotating parlor-car seats with reclining backs. These seats are upholstered in all three of the colors used in the coaches, with the green predominating and repeated in the trim. In this car the entire floor is carpeted.

The drawing room of the parlor car is finished and trimmed in rust and brown. It is furnished with three chairs and a settee seating three persons. Two chairs are upholstered in brown and one chair and the settee in rust.

Immediately behind the coaches is a combination lunch-counter-coach. The passenger compartment of this car is upholstered and trimmed in rust.

In the first coach behind the combination baggage-smoking car are ladies' and men's toilets, both at one end. Each of the second and third coaches is provided with a ladies' lounge at one end and a men's toilet and lavatory at the other. In each ladies' lounge the upholstery colors of the other two coaches have been used. All of the coaches and the parlor car are fitted with the original luggage racks, the under side of the frames of which have been covered with sheet steel, finished in gray, as a feature in the decorative trim of the car.

The general illumination in the coaches, the parlor car and the lunch-counter car is obtained from a center louver light fixture extending the entire length of each passenger compartment along the under side of the air-

distribution duct. The fixture consists of transverse louvers of Catalin, a molded plastic. The light source is 25-watt, 32-volt lamps placed 12 in. apart. The louvers are made in removable sections and the sections are built up on metal rods with spacer sleeves. Direct lighting is provided for reading, but the louvers prevent the bulbs from being visible from any normal angle of vision. There is a large amount of spill light through the sides of the louvers against the ceilings which contributes materially to the uniform illumination of the ceiling and side walls. The louvers themselves are translucent and produce a soft yellow glow which is much more uniform in itself and in its effect on the general illumination than has been achieved by other types of diffused lighting. The loss of illumination at the direct reading plane is less than in fixtures which rely for diffusion on the complete shielding of the light source.

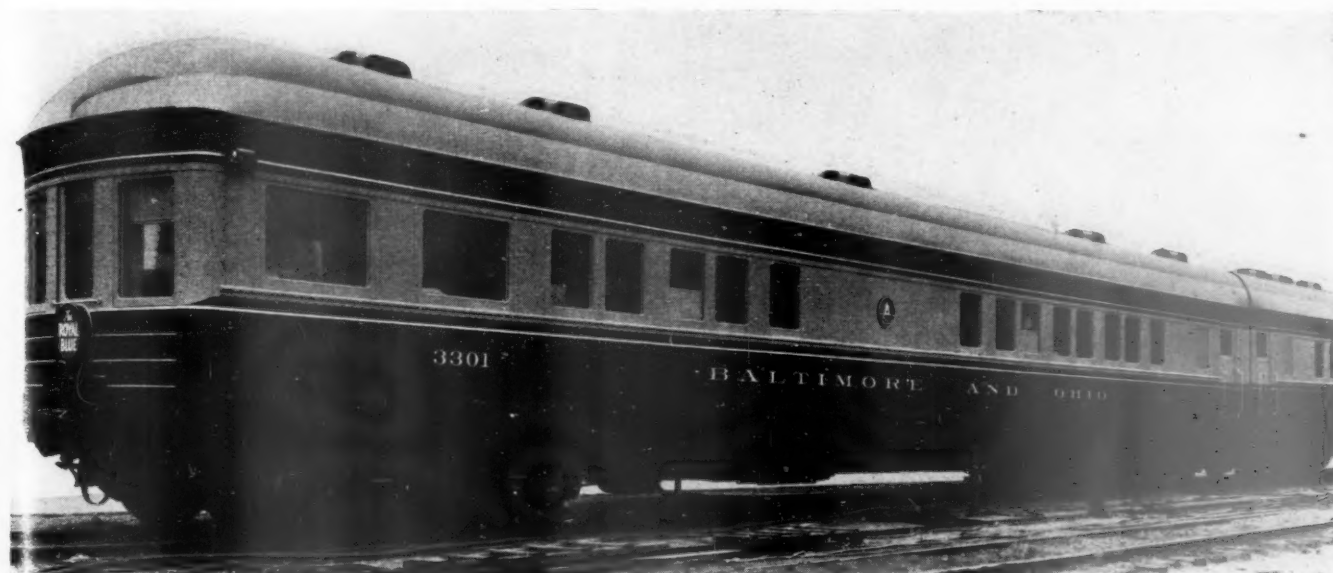
The ladies' lounges in the coaches have corner mirrors which are lighted by corner Lumiline fixtures. Lumiline lights are also employed in the corners of the drawing room in the parlor car. These are built into the corner so that they also furnish illumination in the corridor as well as in the drawing-room itself. Further illumination is provided in the drawing room by a single diffusing-type ceiling fixture.

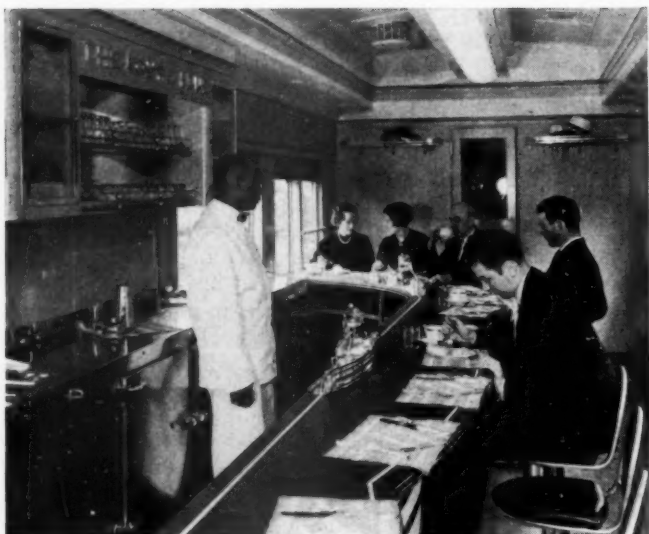
The Lunch Counter and Dining Room

The lunch-counter car has gray walls, trimmed with blue, and the ceiling is cream. The blue trim is repeated in the wainscoting below the windows. The lunch counter, which provides seats for 14 persons, is scalloped in wide curves at regular intervals to increase the elbow room of the patrons. The tops are blue Formica trimmed with cream border lines and edged with polished metal stripes.

At regular intervals at the back of the counter are attractively designed chromium-finish racks which provide safe receptacles for sugar bowls, water pitchers and condiments. Above the chill boxes back of the counter are cupboards and glass racks trimmed with ornamental grilles which repeat the design of the counter racks. The glass display shelves are directly lighted from lamps behind the wide panel across the top of the space above the shelves. The name of the train appears on the face of this panel in raised satin-finished chromium letters.

The counter seats are of tubular-frame, satin-finish chromium, with blue leather upholstery. The floor is





The Lunch Counter

covered with the same neutral grained linoleum as that used in the coaches.

A convenient feature of the lunch-counter car is the placing of the serving kitchen at the end of the car adjoining the kitchen end of the dining car. This facilitates service from the dining-car kitchen without passing through long corridors or aisles used by the patrons.

The dining room is arranged in three sections. Those at the ends each contain four tables and each table seats four persons. These sections are separated from the middle section by low bulkheads with satin-finish chromium grilles at the top. On each side of the middle section is a high-backed up-holstered seat with curved ends. In front of each seat are two pedestal type tables with blue Formica tops trimmed with wide aluminum bands and edged with satin-finish chromium stripes. Each table will seat three persons for meal service.

The ceilings and walls of the dining car are cream and gray, respectively. Above the windows, however, the

gray is relieved by narrow snap moldings of satin-finish chromium. The dining chairs have satin-finish chromium tubular frames, upholstered in blue leather with cream piping. These, as well as those in the cocktail-lounge were furnished by the Heywood-Wakefield Company. The wall seats in the center section of the car are upholstered in cream leather with blue piping. Drapes of blue with narrow horizontal yellow stripes are hung at the windows. They do not obstruct the vision, however, as they are placed over the pilasters at the sides of the window openings. Four ornamental table lamps having satin-finish silver bases, trimmed in blue, and cream shades are placed on the ledge behind the rounded corners of the seats in the center section of the car. The pilasters, with the exception of those behind the curved ends of the center seats, are concave fluted surfaces, finished in cream. Each of these surfaces is illuminated by a vertical Lumiline lamp which is shielded in front by a fluted satin-finish aluminum reflector. As in the coaches, the trim at the bottom of the gray window shades repeats the blue of the leather upholstery.

The general illumination in the diner is similar to that in the coaches, except that two louver fixtures, instead of a single center fixture, are employed, one located below each deck sill. The louvers in these fixtures are smaller than those in the coaches and are molded in units, including the spacers, and are quickly assembled in place. The soft yellow light diffused from the louver surfaces, together with the pilaster lamps and the shaded table lamps, produces a remarkably warm glow within the car which contrasts strikingly and beautifully with the blue tone of the upholstery and interior trim. The direct undiffused light from the deck-sill fixtures heightens the sparkle of the silver and glass on the tables.

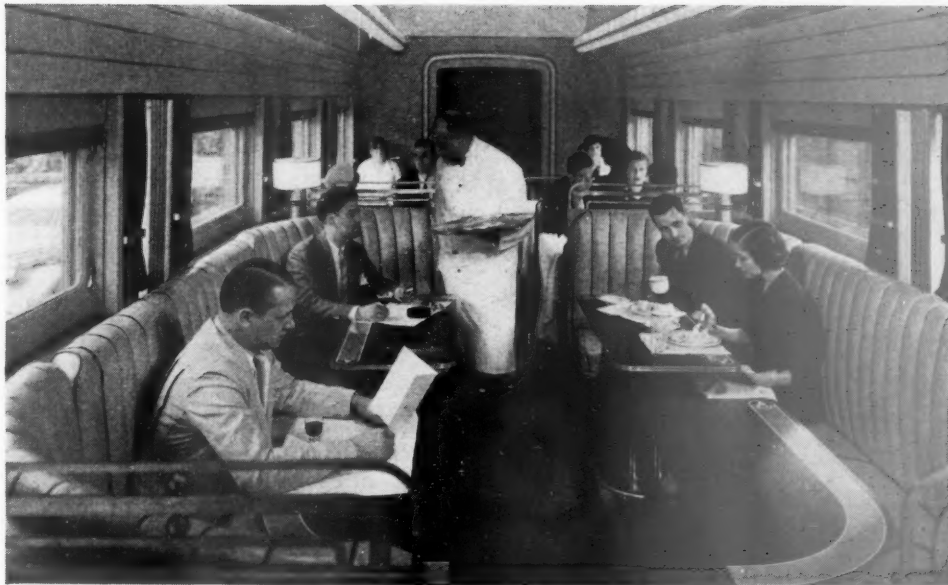
The dining-car floor is covered with a Chase Seamloc carpet with a plain gray ground and one wide and one narrow stripe in blue and cream outlining each side of the aisle.

The interior of the last car in the train is divided into three sections. The first is a parlor-car section which is fitted with modern satin-finish chromium tubular chairs.



There Are Four Tables at Each End of the Dining Room—The Chairs Are Upholstered in Blue Leather with Cream Piping

The High-Backed Wall Seats in the Middle of the Dining Room Are Upholstered in Cream Leather with Blue Piping—Each Table Provides Seats for Three Persons



These are upholstered in mohair of brown and rust colors. This section contains a writing desk, which is also built with a tubular frame. The top is black Formica and it is fitted with a combination inkwell and desk lamp.

The Cocktail-Lounge-Observation Car

The cocktail lounge, which adjoins the parlor section, is separated from the rest of the car by low bulkheads ornamented at the tops with chromium-finish grilles. Round corner seats similar to those in the diner are placed against the bulkheads. A semi-circular bar is placed against the side of the car in the middle of the section. The face of the bar itself is upholstered in red leather secured by snap moldings of satin-finish stainless steel. The kick plate at the base of the bar is of the same material. The top of the bar is black Formica with a red border design and inlaid stripes of satin-finish stainless steel around the edge.

The floor is covered with a Seamloc carpet of gray background with black and red ornamentation which follows the curve of the bar. Silhouettes of famous old B. & O. locomotives, in black, are cut into the wide red border immediately adjacent to the bar.

This section of the car is furnished with modern satin-finish chromium tubular-frame chairs and seats. All upholstery is in red leather. Opposite the bar is a paper and magazine table, with magazine binders in red leather. Ash-receiver stands are fitted with removable service trays. These have high scalloped borders as a protection against the spilling of glasses. At the quarter-round seats in each corner of the lounge are fixed tables with Formica tops in black. The bases are fluted aluminum castings.

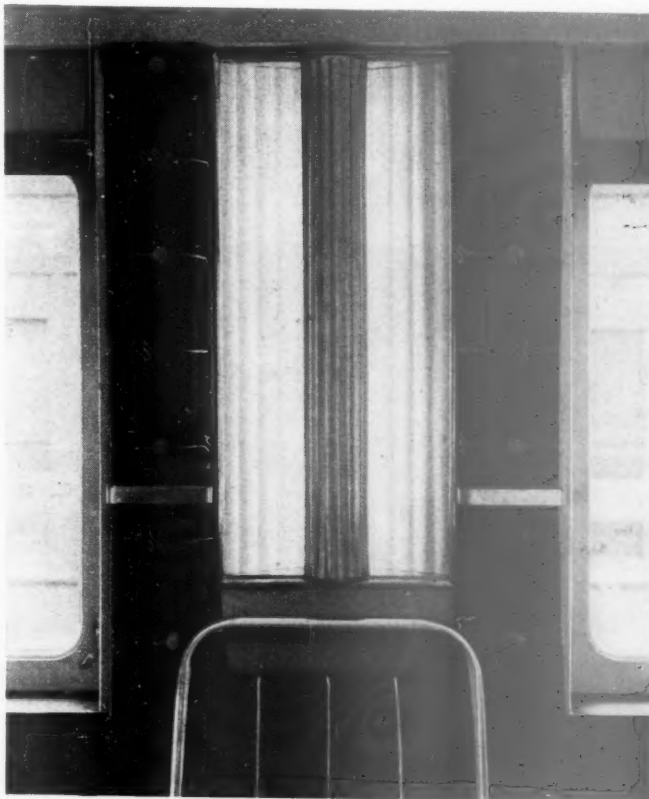
Drapes are hung at the sides of the windows. The material is similar to those hung in the diner. The colors, however, are gray with red design. The back bar has two side cupboards, in the doors of which are the same type of lighting fixtures as are fitted in the pilasters of the dining car. The display racks in the center of the back bar are ornamented and lighted in the same manner as those back of the lunch-counter car.

The observation section of the car is furnished with the chromium-finish tubular-frame chairs and a fixed seat with a card table against the back of each of the low bulkheads separating this compartment from the cocktail lounge. There are two small chairs at each card

table. The upholstery is in the mohair colors employed in the parlor car and coaches. There are also a fixed circular table with a table lamp in the middle of the room and a number of ash receivers fitted with removable serving trays. The floor, like that in the parlor section at the other end of the car, is covered with carpet of the same pattern used in the parlor car and for the aisle strips of the coaches.

Both the parlor and observation sections of this car are fitted with standard basket racks ornamented with gray steel under trim.

The time-honored B. & O. emblem, redesigned in simpler lines to conform with the modern scheme of decorative treatment, is seen in a number of places throughout the train. It is employed in the decorations



The Pilaster Light and Window Drapes in the Dining Room



The Parlor Car

on the tops of the fixed tables in front of the side seats in the middle section of the dining car, on the tops of the fixed tables in the cocktail lounge, on the ornamental grilles above bulkheads and over those on the lunch-counter. It is also woven in headrest covers and napkins, and etched on the glassware. The name of the train in satin-finish chromium letters appears over the bar and above the door at the rear end of the observation-lounge.

The menus in the dining car and in the cocktail lounge conform to the color schemes and the modern character of the interior designs of the cars. In the diner they are blue, gold and white; in the cocktail lounge, red, silver and gray.

The Exterior

The exterior of the train conforms to that of the equipment previously assigned to the Royal Blue run. The roofs of the cars are oval, without end hoods, except at the rear end of the last car, and are finished with black on top and battleship gray on the shoulders. The letterboard is blue, with an inch-wide gold stripe near the lower border. The window panel is battleship

gray and the sides of the cars below the windows are in blue, with an inch-wide gold stripe near the top border. The lettering is in gold. The skirt, which extends 14 in. below the underframe, is in black. At several points the train is ornamented with the B. & O. emblem, in the form of a cast plaque, finished in gold and blue.

Folding steps are used at all vestibules. The wide bands of blue and gray body color, as well as the gold striping, are carried across the diaphragm enclosures, thus giving the appearance of continuity of surface throughout the train.

The Locomotive

The locomotive for the newly equipped Royal Blue train is one of the President class Pacific type, No. 5304, which has been streamlined to retain the characteristic form of the steam locomotive. Several changes have been made in this locomotive in addition to the streamlining. As originally built, the locomotives of this class had 27-in. by 28-in. cylinders and carried 230 lb. boiler pressure. With 80-in. drivers they developed a tractive force of 50,000 lb. The cylinders of No. 5304 have been bored out to 27½ in. in diameter and the original 14-in. piston valves replaced by 12-in. double-admission valves. With the boiler pressure raised to 240 lb., the tractive force has been increased to 54,000 lb.

The road's design of semi-watertube firebox was applied which includes circulator troughs and tubes in addition to four arch tubes. The firebox heating surface has a total of 429 sq. ft. The total evaporative heating surface is 3,877 sq. ft.

No change has been made in the tube layout. The superheater, however, is installed with a header into which the units are rolled. The Lower stoker has been applied.

The motion work has been redesigned to include lighter main and side rods and reduced counterbalance weights. New driving wheels of the Boxpok type have been applied and the main wheels are crossbalanced. The Hennessy oil lubricators have been applied to all driving and truck journals.

The power reverse gear has been removed from the usual location and applied between the frames. The 8½-in. cross-compound air compressor is mounted above the water space on the tender behind the coal bunkers



The Upholstery in the Cocktail Lounge Is Red Leather which Is Repeated on the Front of the Bar—Drapes Are Gray with Figures in Red

The Observation Room Is Separated from the Cocktail Lounge by Low Bulkheads Finished with Grilles—The Chairs Are Upholstered with Mohair



and the reservoirs on the tender frame. The tender has been increased in length by 4 ft. 6 in., which provides an increase of 2,000 gallons in water capacity to 13,000 gallons and an increase of two tons in coal capacity to 19½ tons. The four-wheel tender trucks have been retained, but the journal sizes have been increased from 6½ in. by 12 in. to 7 in. by 13 in.

The original twin-spring buffer has been replaced by a Franklin E2 radial buffer between the engine and tender. The pilot coupler is normally concealed behind the pilot shrouding. It is moved into operating position and retracted by air pressure from the engineman's seat in the cab. The cab standard to this class of locomotive has been replaced with a vestibule cab and the closure at the rear of the tender is designed to provide an unbroken surface between the tender and the train's first car. The locomotive is fitted with a Typhon air horn.

The addition of the shrouding and other alterations in

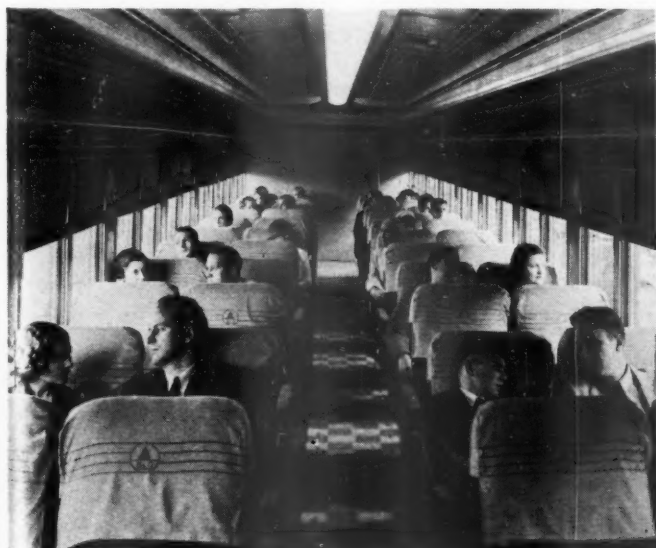
the locomotive have changed the weight distribution. The weight on drivers has been changed from 201,000 to 207,000 lb., and the weight of the engine from 326,000 lb. to 340,000 lb. The tender, loaded, weighs 239,500 lb.

Santa Fe Locomotive Makes Record Run

WHAT is believed to be the longest continuous run ever made by a steam locomotive in regular schedule passenger-train service was completed when Atchison, Topeka & Santa Fe locomotive No. 3461 pulled into the Dearborn Street station, Chicago, December 12, with express and mail train No. 8, after a run of 2,227.3 miles from Los Angeles, Cal. The locomotive is one of six recently built by Baldwin, being of the 4-6-4 type, designed to burn oil, equipped with roller bearings on all wheels and having a tender capacity for 7,000 gal. of oil and 21,000 gal. of water. The train consist included a dynamometer car and 10 to 12 conventional heavy-steel cars, which comprised a total trailing load of 757 to 939 tons. The run demonstrated that a conventional modern steam locomotive can make a long-distance run with a heavy passenger train which normally requires four locomotive changes between Chicago and Los Angeles.

No attempt at a speed record was made in this run. The train left Los Angeles, Cal., at 11:02 p. m., December 9. The total elapsed time was 53 hr., 40 min., of which about 4 hr. 35 min. was spent at stations en route, loading and unloading mail and express, cutting cars in and out of the train, etc. This left a running time of about 49 hr. 5 min., which would indicate an average speed of 45.4 m.p.h. for the entire run. The maximum speed was 90 miles an hour.

The only time locomotive No. 3461 was disconnected from the train was while cutting cars in and out as mentioned. Both the locomotive and train were carefully



A Typical Coach Interior

inspected at all regular inspection points. Helper service was provided on the 2.2 per cent grade from Los Angeles to Upland, Cal., on the 2.2 per cent grade from San Bernardino to Summit, Cal., on the 1.8 per cent grade from Ash Fork to Williams, Ariz., and on the 3.3 per cent grade at Raton and Lynn, N. M.

Fuel was taken at five points enroute, namely, Hackberry, Ariz., Albuquerque, N. M., Dodge City, Kan., Newton, Kan., and Shopton, Iowa, the total fuel consumption being 90,450 gal. of 6½ to 8-Baume fuel oil. Water was taken as required at 18 stations enroute, the total consumption being 208,400 gal. In this connection, tests indicate that the feedwater heater with which this locomotive is equipped, has a condensate return of about 14 per cent which should be added to the apparent water consumption to give the total evaporation.

Fuel oil was supplied to the locomotive from regular wayside oil tanks, located at various stations as needed, which are equipped with heater lines to permit keeping the oil sufficiently fluid for flowing purposes. In the tender fuel tank, indirect heating pipes keep the oil at a temperature of about 160 deg. F., only a small amount of heat being supplied by the injection of live steam when necessary to agitate the oil.

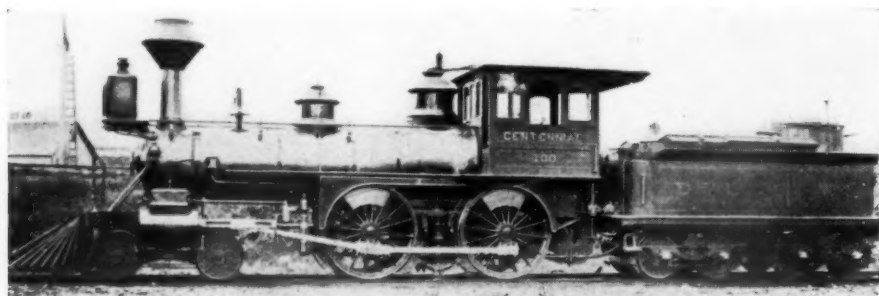
Treated boiler water was used for the most part, supplied from the usual station stand pipes. An important feature in connection with the maintenance of suitable boiler water conditions within the locomotive boiler is the provision of intermittent automatic blowdown equipment which keeps the concentration of solids in the boiler water within desired limits at all times, thus preventing trouble from foaming. Manual blowdown is used to supplement this automatic feature when necessary.

Still another consideration of importance in the success of this long run was the provision for adequate lubrication of the locomotive and all of its parts. Force feed lubrication is provided to the valves and cylinders by a 4-feed mechanical lubricator, an 8-feed mechanical lubricator being used to supply oil to the guides, driving box shoes, and lateral on all engine bearings. Air-compressor cylinders are lubricated by means of a new mechanical lubricator, and a driving-tire flange lubricator is installed. The rods were lubricated and serviced enroute as usual. Roller bearings were checked at regular inspection points. On arrival at Chicago, the locomotive was ready to turn and go back after nominal lubrication attention and standard adjustments.

A feature of this locomotive is the unusually large cab which is located back of the boiler. Steam pressure at 300 lb. per sq. in. is supplied to 23½-in. by 29½-in. cylinders. The locomotive is equipped with a Type E superheater, Thermic syphons, feedwater heater and roller bearings on all wheels, including tender wheels. The driving wheels are 84 in. in diameter. Conventional plain rod bearings are installed. The tractive force developed is 49,300 lb.

During the run full dynamometer car records were

* * * *



"Centennial" Locomotive of D. L. & W.

This American type was built as an exhibition engine for the Centennial Exposition at Philadelphia, Pa., in 1876. It was later purchased by the D. L. & W. for suburban service on the Morris & Essex division and numbered "100." Here she is at Hoboken, N. J., during the 'nineties.

kept and steam indicator cards taken during daylight operation. The back pressure varied from 7 to 16 lb. and the maximum superheat temperature observed was 750 to 800 deg. F. Water and oil consumption were measured by meters. The illustration shows Santa Fe locomotive No. 3461 as equipped for the run.

"Zincgrip Sheets"

THE American Rolling Mill Company, Middletown, Ohio, has perfected a new type of galvanized sheet with a heavy coating of commercially-pure zinc which, it is said, will not crack or peel when the sheet is subjected to relatively severe drawing or forming operations. The new material is known as Zincgrip and is produced in both sheets and coils. It is said to carry 50 to 75 per cent more protective zinc than tight-coat sheets generally used for fabricated products.

It is pointed out that broader use of heavily-coated galvanized sheets has been restricted only because relatively severe fabricating operations fractured the zinc



Various Products Made from Zincgrip Sheets

coating. With the new sheets, it is claimed that exceptionally good adherence is obtained, irrespective of the weight of the coating. They are available in weights ranging from 16 to 18-gage, in any of the basic grades of galvanized iron or steel sheets and strip manufactured by the company.

For more than a year Zincgrip has been used in the production of spiral corrugated lock-seam drainage pipe and is said to have proved satisfactory for this purpose.

Hearing on Pullman's Rate Increase Petition

Officers cite rising labor and other costs which have brought need for additional revenue—Aitchison interested in tourist service

WASHINGTON, D. C.

OFFICERS of the Pullman Company defended its petition for a 10 per cent increase in rates on December 20 and 21 at Washington, D. C., hearings in connection with the Interstate Commerce Commission's Ex Parte 125 investigation of the proposal. Witnesses were D. A. Crawford, president, L. S. Taylor, vice-president, H. R. Holmgren, comptroller, and E. P. Burke, passenger traffic manager.

Cross-examination, save for the few questions asked by John E. Benton, counsel for the National Association of Railroad and Utilities Commissioners, was deferred until a Chicago hearing, scheduled to be held January 10, 1938, before Commissioner Claude R. Porter. Commissioner Clyde B. Aitchison, chairman of the commission's Division 7, which is handling the Pullman case along with the principal job for which it was created,—the railroad's Ex Parte 123 application—stated, however, that this January 10, 1938, date is subject to Ex Parte 123's schedule remaining as it now is. Also, the Chicago session and perhaps one in Washington during Ex Parte 123's finale there on January 17, is expected to conclude the Pullman proceeding. The original Ex Parte 123 schedule, which was superseded by the expedited program, had also assigned Ex Parte 125 for various of the same sessions throughout the country; but Commissioner Aitchison announced that there had been no requests for such widespread hearings on the Pullman application, and thus the Chicago session would perhaps be the only out-of-Washington sitting required.

American Equipment Best in World

President Crawford's testimony was in the main a general statement in explanation of the Pullman business and of the company's need for the additional revenue sought. He did, however, digress in response to questions to defend the passenger equipment of American railroads as the best in the world, and to discuss the adverse effect on Pullman business of such developments as the wider spread—the "triple surcharge," he called it—between basic railroad coach and Pullman fares, and railroad practices of "building parlor cars which they call coaches" and carrying passengers in them for two cents a mile.

Commissioner Aitchison manifested considerable interest in the tourist cars which Pullman operates in the West and the lack of such service in other parts of the country, a subject which the commissioner had previously raised when President F. E. Williamson of the New York Central was testifying in Ex Parte 123. Mr. Crawford was unable to discuss the net effect of these tourist services because he had no definite information on the source of their business—whether they drew passengers up from coaches or down from standard-fare Pullmans. He did say, however, that with an average

loading of 24 passengers as compared with about 10 in the standard car the tourist business justifies itself as a unit of service. Also, that nothing in Pullman policy or contracts prevents the company from furnishing such service in the East—the railroads there "are simply silent" on the tourist question, not having asked for contracts.

Pullman Valuation

The commission introduced in the proceeding an exhibit, prepared by its Bureau of Valuation, which brings down to January 1, 1937, the valuation of the Pullman Company properties. This shows the following valuations for properties owned and used: Original cost, except land and rights, \$237,194,143; original cost, less depreciation—except land and rights, \$130,630,346; cost of reproduction new, except land and rights, \$281,116,449; cost of reproduction, less depreciation—except land and rights, \$154,671,839. The Pullman exhibit had used a valuation figure of \$150,000,000.

Aside from President Crawford's general statement, the Pullman presentation was largely an explanation by the subsequent witnesses of a 28-page exhibit which had been prepared to place into the record pertinent figures on the company set-up, its revenues and the increased costs with which it is now confronted. The latter are given as \$5,856,923 a year while the rate boost sought is expected after adjustments to yield Pullman an annual \$3,661,335. General Counsel L. M. Greenlaw pointed out in the latter connection that the company is not seeking increases to cover the whole rise in its costs; nor does it claim an emergency.

Mr. Crawford opened with an explanation of corporate changes during the 'Twenties which left the Pullman Company a separate entity concerned only with the carrier business. Also, during the 'Twenties this carrier business improved while the railway passenger business was falling off; but the depression brought Pullman losses until its gross reached a 1933 low of \$37,000,000 as compared with about \$80,000,000 during the pre-1929 decade. Pullman's ratio of expenses and taxes to total revenues rose from 89.04 per cent in 1929 to a high of 103.29 per cent in 1935, the latter being due to air-conditioning work and more than the usual amount of maintenance, which it was desirable to do while the cars were in shops. The 1937 ratio is expected to be about 93.31, while in 1936, when earnings were 2.3 per cent on the \$150,000,000 valuation, it was 94.07. Speaking of the air-conditioning program under which Pullman has equipped 5,000 cars, Mr. Crawford said that revenue curves show these expenditures to have been justified.

Co-operation in Research

When the question of research on new equipment was raised, Commissioner Aitchison asked whether this was

done by the Pullman Company or its car-building affiliate, the Pullman-Standard Car Manufacturing Company, the Commissioner evidently recalling the railroad position that creative research is the role of the supply industry. Mr. Crawford replied that the two companies worked together—the Pullman Company was interested in Pullman cars and Pullman-Standard in railroad cars which it was building to operate in the same trains. All wood Pullman cars are now gone, Mr. Crawford added, and the last of those with steel underframes were recently "marked for destruction."

Went Along with Rail Wage Increase

Increased wages account for \$3,247,991 of Pullman's increased annual costs, and in this connection Mr. Crawford said that Pullman told its employees that it would do for them whatever the railroad employees got out of their negotiations. He explained that Pullman employees work alongside railroad men, and their wages have been more or less parallel for many years. The witness later admitted to Mr. Benton that he did not regard Pullman employees as underpaid before the upward adjustment.

Mr. Crawford's defense of American equipment came in response to a question from Commissioner Aitchison who asked if foreign observers did not criticize "the monotony" of the passenger cars here. The witness thought that one could get as many opinions as there were observers of the matter, which is a question of taste. He pointed out that Pullman's car-building affiliate has a plant in France, and went on to say that the American traveler usually comes back with an impression of Europe's best trains—"the front-door equipment." As a matter of fact, Mr. Crawford continued, this equipment was "put in the shed and covered up"—not run at all—during a couple of depression years when the Americans were not present.

When Commission Aitchison next observed that styling in private automobiles has perhaps had much to do with their popularity, the witness agreed but added that "if you'll look at the styling in Pullman equipment you'll see that the cars are appearing with their complexions changed." The Streamliner City of Los Angeles, Mr. Crawford thinks, is "far and away ahead of anything offered abroad."

Contracts with Railroads

Next Mr. Crawford explained the evolution of present Pullman contracts with railroads. These, he said, give the railroads an incentive to use cars prudently, covering three elements in their revenue-division provisions—the cost of operation, a basic return per car to Pullman and a sharing with the railroad of any excess revenue. This discussion led to that of railroad fare policies in which connection the witness expressed the view that railroad coach-mindedness in recent years has derated a lot of first class business. Whereupon Commissioner Aitchison interjected his above-mentioned inquiry regarding the intermediate-class tourist service. And Commissioner Porter said that he had recently traveled from Los Angeles, Calif., to Salt Lake City, Utah, with only one other passenger in a standard sleeper behind which was a tourist sleeper loaded to capacity. But Mr. Crawford would not appraise the value of the latter business to Pullman in the absence of information as to where the passengers would otherwise have been—in coaches or in the standard sleeper with Commissioner Porter.

The witness conceded that tourist service compares favorably with that in standard sleepers, in fact that it is conducted in derated standard cars with old color

schemes, etc. He pointed out, however, that passengers can't get the same attention in heavily-loaded cars, and the daytime seating is more crowded. Asked by Commissioner Marion M. Caskie if an increase in the coach fare would increase Pullman travel, Mr. Crawford replied that he thought it would; he feels that there has been a repression of the Pullman business since the wider differentials became effective. Recalled later for questioning by Mr. Benton on sales by Pullman-Standard to Pullman Company, including repair work, Mr. Crawford agreed to furnish for the record a statement covering such transactions from 1932 to date.

Vice-President Taylor was introduced as the Pullman officer in charge of finance, accounting and valuation. He stated that the average number of cars operated in 1937 was 5,566 and that Pullman has considered that each car ought to average about 150,000 miles a year. The Pullman Company, he later pointed out, has no bonded debt and there is no trading in its stock which is practically all owned by Pullman, Inc. Thus the market value of the stock is not known; its par value is \$100 and the book value, as of September 30, was \$106.

Net Would Still Be Less Than Fair Return

Mr. Taylor did not think that a 10 per cent increase in rates would cause a loss of traffic; and he thought such an increase was justified, because with it Pullman earnings would still be "considerably less" than what is generally regarded as a fair return.

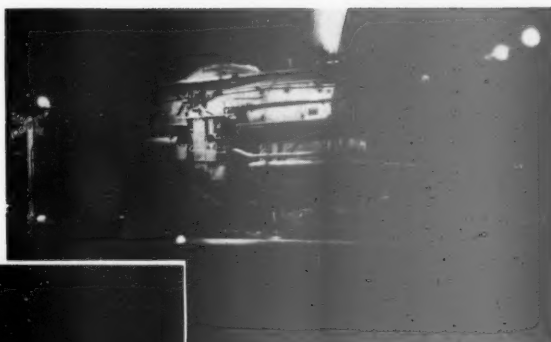
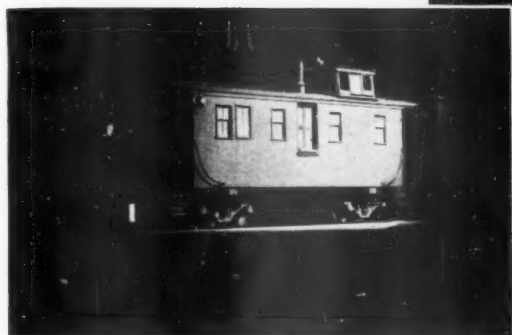
Comptroller Holmgren, after giving a page-by-page explanation of those portions of the exhibit which were prepared under his direction, was followed on the stand by Passenger Traffic Manager Burke. When the latter had explained some of the traffic statistics he was questioned by Commissioner Aitchison regarding excursion rates. Pullman, the witness said, has had considerable experience with such rates, notably week-end rates, and the results have been "very satisfactory." He cited New York-Niagara Falls excursions where the occupancy was 26 passengers per car. These excursion rates, Mr. Burke explained, are installed—where they will not interfere with commercial business."

Discussing the railroad rate structure Mr. Burke pointed out how round-trip rates in the west tend to narrow the spread between the cost of railroad travel in coaches and in Pullmans. And, he said later, anything which narrows the spread has a beneficial effect on Pullman business. He cited figures of traffic gains in the West following the fare adjustment, which were accompanied by losses of chair-car business in the East. He revealed that 88 per cent of Pullman's parlor car business is done on four Eastern roads; about 38.8 per cent of its total revenue comes out of the West.

The Pullman rate structure, Mr. Burke explained, is based largely on tradition. The basic rate is the charge for the lower berth which is now 7.2 mills per mile, having been increased 20 per cent from the 6-mills rate which was in effect prior to 1920. The basic seat rate is one-half cent per mile. The witness told Mr. Aitchison that the rate structure has not been based on any analysis of costs, but Pullman nevertheless thinks it is "about right" as a whole—there have been no complaints, the volume has been good and the return not excessive. It was brought out, however, that several rates are below the standard charges, having been left undisturbed when the 6-mills lower berth rate became the basic charge about 1911. Commissioner Aitchison was "much interested" in the extent to which these sub-standard rates are in effect; and Mr. Burke told him

(Continued on page 913)

New type of protection eliminates side-of-train collisions on the Chicago & Illinois Midland



These Three Views Illustrate the Manner in Which Various Types of Equipment Are Illuminated by the Directional Flood-Lighting System on the C. & I. M.

Directional Flood-Lighting Solves Crossing Problem

WHEN confronted several years ago with a series of side-of-train collisions at night at certain of its highway-railway grade crossings, the Chicago & Illinois Midland, after a thorough investigation of the problem, installed directional flood-lighting systems at the troublesome locations and since has experienced no further difficulty at these points. So effective did the original installations prove to be in eliminating side-of-train collisions that three additional installations have been made so that a total of six crossings are now protected in this manner.

This new method of flood-lighting crossings is designed especially for installation at locations where train movements are slow or where the crossing is apt to be occupied frequently by standing trains and cars. It has been the experience of the C. & I. M. that side-of-train collisions occur frequently at such locations because, so long as a locomotive headlight is not visible, motorists will frequently assume that the crossing is clear, even though it may be occupied by unlighted equipment. The object of the new system, therefore, is to illuminate any object on the crossing so clearly that it may be seen at some distance from the track.

Important Features

Important among the features embodied in the grade-crossing flood-lighting system employed on the C. & I. M. are: (1) Elimination of glare in the eyes of both automobile drivers and enginemen; (2) protection against failure of lamps; (3) continuous dusk-to-dawn operation; and (4) low maintenance cost. This system, which is known as the Cimco system, comprises at each location two floodlights, one on each side of the crossing, each of which is mounted on a pole at a height of 30

ft. above the track in such a position that the beam of each lamp is focussed on a point 5 ft. above the center of the highway and 18 in. from the near rail.

Pyle-National projectors burning 200-watt bulbs are used and to guard against failure of the lamps, two projectors are mounted on each pole. To avoid side glare, the lighting fixtures are provided with louvers, and for the convenience and safety of the maintainer when renewing bulbs and cleaning the lenses of the projectors, each pair is mounted on a Hubbard pole balcony. Control of the light is accomplished by means of a Sangamo astronomic time-switch, which automatically compensates for seasonal variations in the length of the day. It was found that the poles supporting the lamps could be placed as close as 16 ft. to the center line of the track.

Side-of-train collisions first became an acute problem on the C. & I. M. in 1932 when the Illinois State Highway department constructed a new highway, known as No. 104, at Cimic, Ill., in such a location that it crossed three connections of the C. & I. M. with the Illinois Central at this point. As shown in the accompanying sketch, the main lines of the two railroads intersect practically at right angles at this point, while the highway parallels the main line of the C. & I. M. and crosses the Illinois Central and the three connections between the two lines.

As the line of the Illinois Central in this vicinity, being the main line between Chicago and St. Louis, carries high-speed passenger trains, this highway crossing was protected from the beginning with flashing-light signals operated from track circuits. However, movements over the connecting tracks, which occur mostly at night, are largely for switching purposes and therefore at a slow rate of speed, frequently involving close approach to the crossing but not passage over it. In view of these con-

siderations, no signaling devices were provided at the three intersections of the highway with the connecting lines, the only protection consisting of standard crossing signs supplemented by hand signals from the trainmen of passing trains.

Crossings Considered Dangerous

From the beginning, the three crossings of the highway with the C. & I. M. tracks were considered to have dangerous potentialities by officers of the railroad, and events were not long in confirming this viewpoint. The first accident, involving a side-of-train collision, occurred three weeks after the highway was opened for traffic and was followed by a series of such accidents. All of these accidents happened at night and either involved side-of-train collisions or resulted when automobiles swerved off the highway to avoid collision with cars standing on or moving slowly over the crossings.

With events thus pointing strongly to the need for some type of protection at the crossings, the railroad decided to install an overhead flood light at each crossing, the light being suspended 30 ft. above the pavement on the center-line of the roadway. For a period of six months following the installation of these lights no further accidents occurred, and it was thought that the hazard had been removed. However, commencing on July 18, 1934, a new succession of accidents occurred, there being five within the next six months.

As a result of the new developments, the railroad, in co-operation with the engineering staff of the Illinois Commerce Commission, made a further study of the safety requirements of these crossings, as a result of which the present system of floodlighting was evolved. An experimental installation of the system was made at one of the crossings, and after its effectiveness had been demonstrated by tests and observations, installations were made at the other two crossings.

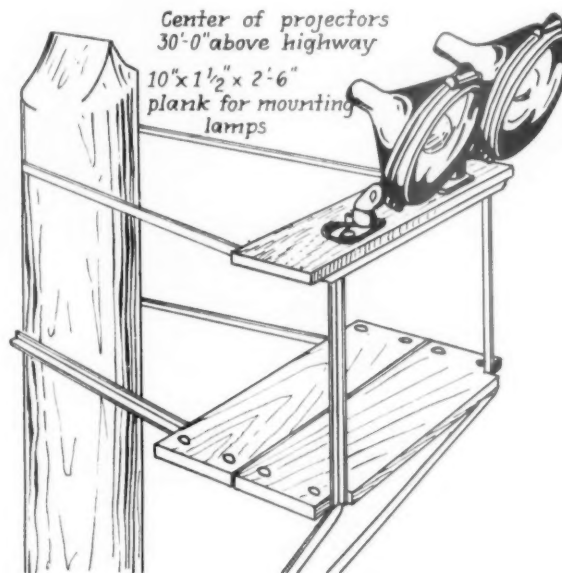
So effectively do these installations illuminate the crossings and any railroad equipment that may be on them that no side-of-train collisions have occurred at these locations since the directional flood-lighting systems were installed. Observations, which were made on a dark but not foggy night, showed that at a distance of one-half mile from one of the crossings a caboose and coal car could be seen being pushed over the crossing, that at a distance of 1,500 ft. cars on the crossing were plainly visible, and that at a distance of 1,000 ft. from the crossing a motorist exercising any caution whatever could not fail to see if the crossing was occupied, at least under the weather conditions then prevailing.

Additional Installations

So effective did the directional flood-lighting systems prove in eliminating the hazard at the three original locations that three more installations have been made at crossings where somewhat similar conditions existed. The first of these is a short distance east of the original

installation at a point where the railroad is crossed at right angles by U. S. Highway No. 66. Originally this crossing was equipped with standard flashing-light protection, but as a result of the existence of conditions peculiar to this location it was found that this type of protection was not effective in preventing accidents.

In the first place, because of the proximity of the Illinois Central crossing, the night freight trains of the C. & I. M. frequently pass over the intersection with Highway 66 at a slow rate of speed or stop altogether,

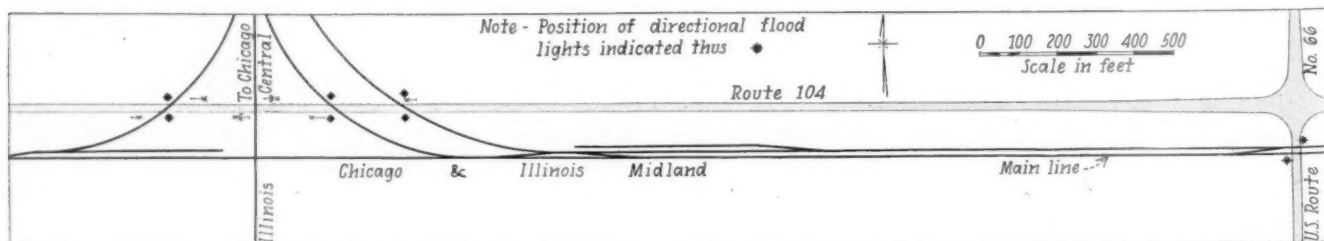


This Drawing Illustrated the Type of Pole Balcony That Is Used for Supporting the Flood-Lights

thus setting the stage for the occurrence of side-of-train accidents. This situation, moreover, was aggravated by the presence in the immediate vicinity of numerous lighted advertising signs which, in competition with the crossing signal, naturally rendered the latter less effective. To remedy this situation the railroad installed a directional flood-lighting system at the crossing to supplement the flashing-light signals.

The fifth installation was made at a point $1\frac{1}{2}$ miles west of Taylorville, Ill., where the company's line is crossed by State Highway No. 48. Originally this crossing was protected only by standard crossing signs, which were supplemented somewhat more than a year ago by reflex crossing signs, these being installed by the state as a part of its program for improving the protection at railway-highway grade crossings. However, side-of-train collisions continued to occur at this location, with the result that directional flood lighting protection has been installed.

The sixth and most recent installation of this type of protection was made at a point at the edge of Taylorville, where the company's line is intersected by another



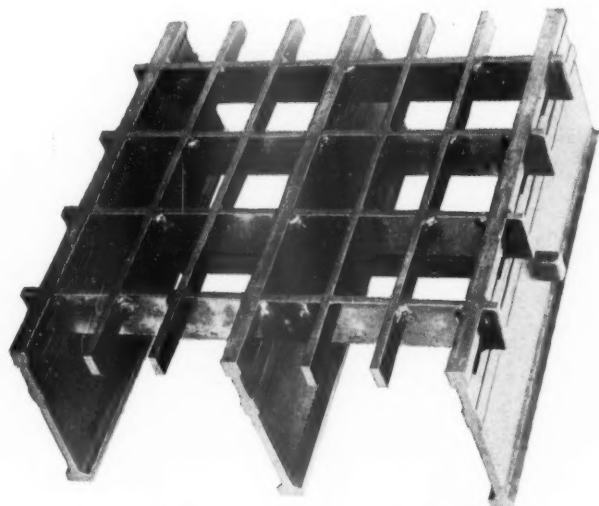
Plan of the Grade Crossing Situation at Cimic, Ill.

important highway. For many years this crossing was protected by a wig-wag signal; however, passenger service over the line was abandoned some time ago and, as frequent switching movements are made over the crossing, it was felt that the requirements of the location would be best served by replacement of the wig-wag by directional flood-lighting.

The directional flood-lighting system described above was developed under the general direction of C. H. Paris, chief engineer of the C. & I. M., and with the assistance of the engineering staff of the Illinois Commerce Commission. We are indebted to Mr. Paris for the information contained in this article.

I-Beam-Lok Open Floor

A NEW type of bridge flooring, known as U.S.S. I-Beam-Lok open floor, has been introduced by the Carnegie-Illinois Steel Corporation, Chicago and Pittsburgh, Pa. In this floor, which is similar to the U.S.S. I-Beam-Lok floor, the elementary load-



A Section of I-Beam-Lok Open Floor

carrying members consist of special 5-in. I-beams, which are arranged on 6-in. centers. Cross-bars, $1\frac{1}{4}$ in. by $\frac{3}{4}$ in. in section, intersect the beams at 3-in. intervals and, in turn, are notched at the top to receive two additional supplementary cross-bars, $\frac{3}{4}$ in. by $\frac{1}{4}$ in. in section, which are spaced equally between the main carrying beams. Thus the assembly presents a steel surface with rectangular openings approximately $1\frac{1}{8}$ in. by $2\frac{3}{4}$ in. in size.

The new floor construction has a total weight above the stringers of 18.3 lb. per square foot. It is fabricated in standard widths up to 6 ft. $1\frac{1}{2}$ in. and in lengths up to 49 ft. The units may be so placed that the main carrying members extend either parallel or at right angles to traffic. Long life of the new floor is said to be assured because none of the sections used is less than $\frac{1}{4}$ in. in thickness. To reduce bearing pressures the webs of the main members are thickened 25 per cent along a line just below the cross-bars.

It is claimed for the new floor that it can be applied directly to stringers without supplementary supporting

steel where the stringer spacing is not in excess of 4 ft. or 4 ft. 6 in. for H-20 standard highway loading (see accompanying safe load table). Moreover, it is pointed out that the rectangular openings in the floor have been

Safe Load Table for I-Beam-Lok Open Floor
fs = 20,000 lb. per sq. in.

Loading (Standard Highway)	Direction of Main I-Beam-Lok Sections	No. of 5-in. I-Beam-Lok Beams Carrying One Wheel Load	Spans Up
H-20	Transverse To Traffic	5	4 ft. 0 in.
	Parallel To Traffic	6	4 ft. 6 in.
H-15	Transverse To Traffic	5	5 ft. 0 in.
	Parallel To Traffic	6	5 ft. 6 in.

so designed that there are no re-entrant angles and, therefore, that they will not become clogged with dirt, debris, snow or ice.

Owing to its light weight it is also pointed out that the new floor can be used to replace wood floors without sacrificing live-load capacity and that, in some instances, it will provide increased capacity because of its greater strength as compared with the wood flooring. The new floor construction is said to be readily adapted to use in bridges having railway tracks in the roadway and that, because of its light weight, it will prove of advantage when used in vertical or bascule bridges. In the latter instance, it is pointed out that wind resistance is reduced to a minimum.

Hearing on Pullman's Rate Increase Petition

(Continued from page 910)

that "very few rates between important cities are on the straight basis per mile."

In the latter connection the witness admitted to Mr. Benton that nothing prevented Pullman from filing tariffs proposing to bring these rates up to the standard level; in fact nothing precluded the filing of tariffs carrying the proposed 10 per cent increase—no Pullman rates are held by orders of the commission.

Roomette Cars "Something Good"

Speaking of Pullman efforts to merchandise its product, Mr. Burke came to a discussion of the roomette car, one of which has been operating in experimental service throughout the country. In this the witness thought the company had "something good"; and he cited instances wherein the present car had demonstrated its popularity. Plans call for the installation of a number of similar cars, but Mr. Burke told Commissioner Aitchison that the design requires the construction of a new car. In response to a question from Commissioner Porter the witness said that he was informed that parlor cars are not profitable to Pullman—the profit comes from berth sales.

Mr. Burke does not think that the proposed 10 per cent increase would divert business, an opinion which he bases on Pullman's 1920 experience. Then it was allowed to increase rates 20 per cent with no resultant loss of traffic. The exhibit shows that 82 per cent of Pullman sales are of \$4 or less, on which basis 82 per cent of its customers would be subjected to a rate increase of 40 cents or less.

Motor Transport Section

N. P. Builds Truck-Bus System

Co-ordinated service has been extended to cover the entire territory in Montana served by the railway

FOR some time, the Northern Pacific has been building a rail-highway co-ordination system along its main lines and branches in Montana for the purpose of giving its patrons in that territory a faster and more flexible service. The system now gives such service to practically every point in Montana served by the Northern Pacific, and permits second morning delivery from Seattle, with first morning delivery from Spokane, of merchandise for the consuming centers in Montana, as well as speeding up deliveries in this territory by 24 to 36 hours on transcontinental merchandise traffic from the east. In addition, all the principal jobbing points on the N. P. in Montana are given overnight service to their immediate trade territories. Close connection and co-operation with the Great Northern rail-highway co-ordination in northern Montana widens the scope of both operations materially.

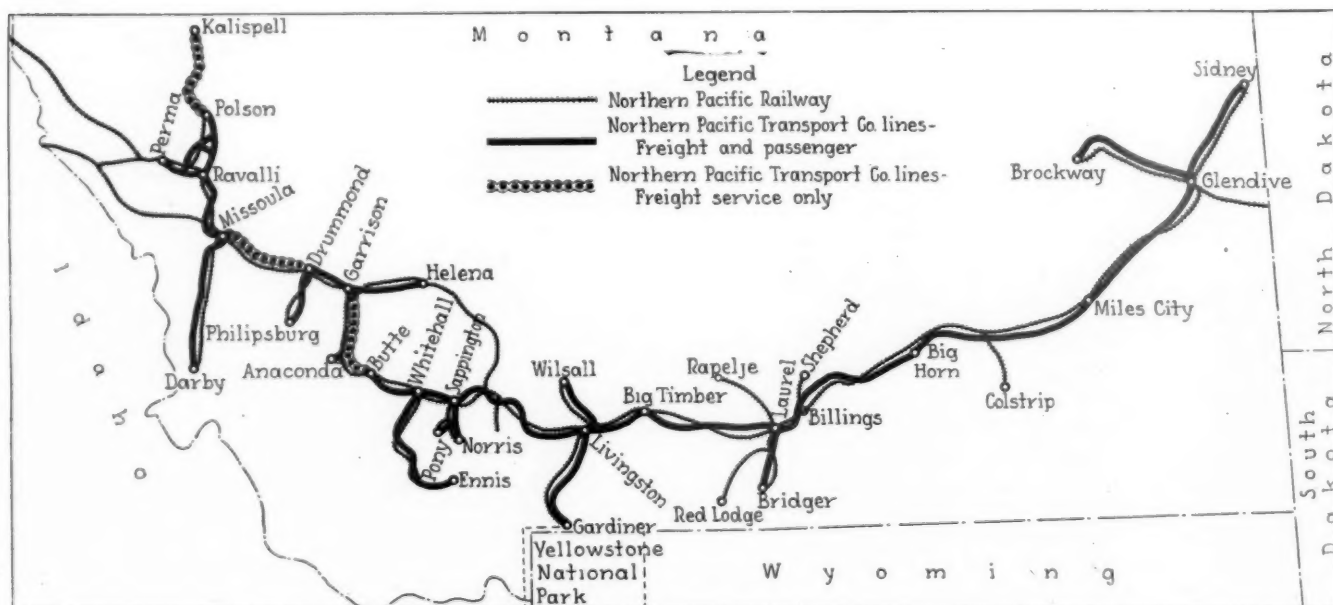
The provision of such service on an economical, efficient basis is particularly remarkable in view of the relatively light-traffic territory served by this operation. Much better passenger service is also provided to local points by means of bus and bus-truck routes that parallel the main line and many of the branches, and supply a co-ordinated service in conjunction with the through,

main-line passenger trains. Starting in 1932 with a bus line between Billings and Miles City, 146 miles, the operation has grown, as indicated on the accompanying map, to the point where eight truck routes, nine bus-truck routes and six bus routes now operate 60,000 truck miles, 35,000 bus-truck miles and 45,000 bus miles monthly.

How It Works

In the development of this co-ordinated system of transportation, through cars are operated to the concentration points on fast rail schedules and, upon arrival there, the merchandise is fanned out by trucks, or bus-trucks, to local points east and west along the main line and to the radiating branches. Such cars, for example, are operated from Spokane to both Missoula and Butte, these cars also containing freight from Seattle. On arrival at the two Montana points early in the morning, the merchandise is transferred immediately to trucks and morning delivery is made to each local and branch line point.

The extent to which this program improves branch line service, in addition to increasing the speed of han-



The N. P. Installed Rail-Highway Co-ordination Throughout Its Montana Territory

The Passenger Vehicles Are
Modern and Efficient



dling, is indicated by the fact that six-day-a-week service is now provided on the Norris, Alder and Darby branches, as compared with the tri-weekly service formerly in effect when mixed trains were operated. Likewise, the Bridger, Brockway, Wilsall, Gardiner and Polson branches now have six-day-a-week service instead of the twice-a-week service previously provided.

Other improvements are to be found in conditions such as formerly existed, for example, on the Sidney branch. Here mixed train service was operated, which, because of the handling of U. S. mail and express, had to have definite terminal arrival and departure times. This branch produces a considerable livestock traffic which because of the necessity of operating the mixed trains on a fixed schedule, could not be handled to the Glendive terminal to make prompt connections with main-line livestock trains. As a result, it was not uncommon for Sidney branch livestock to be delayed to such an extent that it had to be fed at Glendive, only

60 miles from its point of origin. Bus and truck service now takes care of the mail and express, permitting the operation of local stock trains on the branch on a schedule that provides prompt main-line connections, with the result that since the inauguration of the Sidney and Brockway branch highway routes, it has not been necessary to feed a single car of stock from these branches at Glendive.

The slightly off-line truck route to Anaconda also provides a special and improved service. The mining company there also has a large operation near Polson on a branch out of Missoula, with a considerable flow of l.c.l. traffic to that point. Formerly, with the necessity of handling the business through so many terminals, it took days to make the move by railroad, whereas with the co-ordinated service, overnight delivery is now provided.

The buses and bus-trucks give to the entire territory a much improved service both to the local points along



The Freight Equipment Must Withstand Severe Mountain Operating Conditions



The "Silver Streak," a Refrigerator Truck and Trailer Operated by the Northern Pacific in Montana

the main line and to the branches. In the former case, they have also eliminated the delay and expense of stopping through trains in the latter case, as with the merchandise deliveries, they now provide daily service instead of bi-weekly or tri-weekly mixed trains.

Passenger Service

Because of the mountainous nature of the country traversed and other factors, the railway stations at several points are at a considerable distance from the business centers of the towns, and this inconvenience has also been eliminated by the bus or bus-truck service. At Ronan, Mont., for instance, the N. P. station is nearly a mile from the center of the city, but since the inauguration of the bus route, the N. P. has leased a building on the main street as a bus station. A similar condition existed at Polson, Mont., where the N. P. has purchased a centrally-located building for a bus station.

Maintenance

In a state of such great distances as Montana—it is 775 miles from the North Dakota border to the Idaho

border along the main line of the N. P. across the state—the problem of proper bus and truck maintenance was a difficult one to solve. However, by building two main garages, at Missoula and Billings, where all the major work is done, and a smaller garage at Whitehall, with unusually well-equipped stockrooms, the problem was solved. Insofar as possible, the equipment on the various runs is interchanged from time to time to route the units into one or the other of the main shops in revenue service when they are in need of repairs. In cases where this is impractical, local arrangements are made for repairs, supplemented by periodic visits by a traveling mechanic employed by the N. P. to see that the equipment is being properly serviced.

Equipment

The various units used in the service are widely diversified, both as to makes and sizes, to meet the varying demands of the different classes of service in which they are employed. Several of the units are refrigerated for the handling of l.c.l. perishable business. The units are as follows:

- 7 tractor-trucks
- 1 ½-ton truck
- 7 1½-ton trucks
- 2 2-ton trucks
- 5 3-ton trucks
- 3 6-wheel trucks with vans
- 5 10-ton semi-trailers
- 1 8-ton semi-trailer
- 2 5-ton semi-trailers
- 1 3-ton semi-trailer
- 5 9-passenger, 4-ton bus-trucks
- 1 9-passenger, 3½-ton bus-truck
- 1 9-passenger, 1½-ton bus-truck
- 1 6-passenger, 2½-ton bus-truck
- 2 5-passenger, 1½-ton bus-trucks
- 1 33-passenger bus
- 1 29-passenger bus
- 1 21-passenger bus
- 6 17-passenger buses
- 4 sedans



Combination Bus-Trucks Are Used to Good Advantage

In addition, the N. P. has recently ordered three trucks and trailers for heavy mountain service between Butte and Missoula, and between Billings and Butte, which will be equipped with Diesel engines.

Make-Up of The Greyhound Lines

Nation-wide bus operating company has grown from small beginnings in a decade

FROM a bus route of less than 100 miles in the Northwest to a bus system covering 50,000 route miles of highways daily and handling more than 30 million passengers annually is the achievement of the Greyhound Lines in little more than a decade. The Greyhound Lines, through a number of affiliated operating companies, afford motor bus transportation to every state in the United States and to many cities in Canada. Operated as an integrated system, with through traffic agreements' interline tariffs, connecting schedules and joint advertising, the Greyhound Lines present striking similarities to the railways, many of which, in fact, own sizeable interests in the various member companies. Schedules similar to railway timetables are issued, which provide detailed information covering travel to any part of the United States.

These schedules include journeys varying from short regional trips—such as from Philadelphia to New York or from New York to Boston—to transcontinental trips between New York and California, and between Duluth, Minn., and Miami, Fla.

The tariffs on file give complete information on the rates for transportation of persons and property, with full details as to the rules and regulations governing such transportation. Terminals similar to railway stations are situated in the key cities, and, in several of the large cities, travel bureaus are maintained for the purpose of giving prospective passengers information regarding schedules and rates.

The Greyhound Corporation

The principal corporation in this system is the Greyhound Corporation, incorporated in Delaware in 1926 to act as a holding company in the field of motor bus transportation. This company has stock interests in the 13 bus-operating companies whose routes connect to form the Greyhound system. Nine of these 13 are controlled through stock ownership. The corporation also has interests in terminal and other companies performing auxiliary services. The control by stock ownership is heightened by a system of interlocking officers and directors. The subsidiaries of the corporation, in turn, own or control many other companies.

The Greyhound Management Company is a Delaware corporation, all of whose stock is owned by the Greyhound Corporation. As its name indicates, this company performs various management duties for the subsidiary companies, subject at all times to the general supervision and direction of the boards of directors of those companies. These services for the operating companies and controlling corporations include the handling of group insurance, personnel problems, preparation of schedules, legal services, advertising, etc.

In addition to the actual subsidiaries, there are a number of bus-operating companies with which Greyhound has agreements and operating understandings. Included in these is the Union Pacific-Chicago & North Western group, comprising the Interstate Transit Lines and the Union Pacific Stages, which, prior to an agreement

signed in 1932, were strong competitors, but now serve as friendly connections, interchanging a large volume of through traffic.

Operating Companies

A brief resume of several of the operating companies, giving certain pertinent operating data of each will be of assistance to an understanding of the workings of the entire corporation.

The Atlantic Greyhound Lines is a Delaware corporation, with Virginia and Ohio subsidiaries, and having headquarters at Charleston, W. Va. It engages in bus transportation through the states of Maryland, Virginia, West Virginia, Pennsylvania, Ohio, North Carolina, South Carolina, Kentucky, Georgia, Tennessee, Florida and the District of Columbia. Its consolidated gross revenues for the year ending December 31, 1936, totaled \$4,600,160, and its total consolidated assets on that date were \$5,210,358. It operates some 190 buses and enrolls 755 employees, including 295 bus drivers and 169 mechanics.

The basic routes of the Southwestern Greyhound Lines comprise the bus lines formerly operated by the Southwestern Transportation Company, a wholly-owned highway subsidiary of the St. Louis Southwestern, which now confines itself entirely to truck operations. The company is a Delaware corporation, with headquarters in Fort Worth, Texas, operating in Missouri, Kansas, Oklahoma, Arkansas, Tennessee, Louisiana, Colorado, New Mexico and Texas. Its consolidated gross revenues for the year ended December 31, 1936, were \$4,630,367, and for the first five months of 1937, \$1,768,308. It has some 950 employees, including 290 bus drivers and 220 mechanics.

The Central Greyhound Lines, prior to the acquisition of a considerable portion of its stock by the New York Central a few years ago, was independently owned. It is a Delaware corporation, with New York and Indiana subsidiaries, with headquarters at Cleveland, Ohio, and operating in Massachusetts, New York, Pennsylvania, Ohio, Indiana, Michigan and Illinois. Its gross revenues for the fiscal year ended May 31, 1937, were \$5,022,641. It operates about 270 buses, and employs 1,195 persons of whom 484 are drivers and 288 mechanics.

The Illinois Greyhound Lines is an Illinois corporation, operating 28 buses in Illinois, Indiana and Missouri. Its gross revenues for the year ended May 31, 1937, were \$816,602. It has 31 employees of whom 25 are drivers.

The Canadian Greyhound Lines is organized under the laws of the province of Ontario, with headquarters at Windsor, Ont., and operates a bus route between Buffalo, N. Y., and Detroit, Mich., through Canada. Its gross revenues for the fiscal year ended May 31, 1937, were \$266,068. It operates 26 buses, with 21 employees, 15 of whom are drivers.

The Eastern Greyhound Lines, technically known as the Eastern Greyhound Lines of New England, is a Delaware corporation and is the operating subsidiary

poration, with headquarters at Richmond, Va., in which the Richmond, Fredericksburg & Potomac has a large interest. It operates 17 buses in Virginia and the District of Columbia, and its gross revenues for the year ending December 31, 1936, were \$466,435. It has 31 employees, of whom 26 are drivers and 2 are mechanics. However, it owns 25 per cent of the stock of a subsidiary, Greyhound Garage of Washington, where most of the servicing and repair of its equipment is done. The Pennsylvania Greyhound owns the other 75 per cent of the Washington subsidiary.

The Capitol Greyhound Lines is a Virginia corporation, with Indiana and Illinois subsidiaries and with headquarters at Cincinnati, Ohio, operating 25 buses in Missouri, Indiana, Illinois, Kentucky, Maryland, West Virginia, Virginia and the District of Columbia. Its gross revenues for the year ending December 31, 1936, were \$517,477. It has 36 employees, of whom 35 are bus drivers.

The Ohio Greyhound Lines is an Indiana corporation, operating 26 buses in Michigan, Ohio and Indiana. Its gross revenues for the year ending December 31, 1936, were \$610,637, and \$247,088 for the first five months of 1937. It has 42 employees, including 21 drivers and 2 mechanics.

The Southeastern Greyhound Lines is not closely connected with the other lines financially, although its operating and traffic agreements make it an integrated part of the system. It is a Kentucky corporation, with Delaware, Alabama, Tennessee and Indiana subsidiaries, of which the Kentucky, Alabama and Tennessee corporations are operating companies. It operates in Kentucky, Tennessee, Alabama, Georgia, Florida, West Virginia, Ohio and Indiana and has 557 employees, 213 of whom are bus drivers. The Southeastern Greyhound Lines owns 50 per cent, and the Union Bus Company the other 50 per cent, of the Southeastern Management Company which owns 47 buses operating in Florida, Georgia, Tennessee and Alabama, and has 214 employees, including 76 drivers and 39 mechanics.

The Pennsylvania Greyhound Lines is a Delaware corporation, 50 per cent of the common stock of which is owned by the Greyhound Corporation. The other 50 per cent of the common and all of the preferred stock is owned by the American Contract and Trust Company, a wholly-owned subsidiary of the Pennsylvania railroad. The Pennsylvania Greyhound Lines owns the entire capital stock of Indiana, Illinois and Virginia subsidiaries of the same name, as well as that of the Montgomery Bus Company, the Peoples Rapid Transit Company and the Pennsylvania Greyhound Transit Company, all of which are operating or terminal companies.

These form a system within a system and more than 300 buses are operated over more than 5,000 route miles daily in New York, Pennsylvania, Maryland, Ohio, Illinois, Indiana, Missouri, Kentucky and the District of Columbia. Its gross revenues for the year ending May 31, 1937, were \$6,624,825 and it has 1,276 employees, including 533 bus drivers and 257 mechanics.

The holding company of the Pacific Greyhound Lines, known as the Pacific Greyhound Corporation, was organized in January, 1929, and acquired the ownership of the California Transit Company, the Pickwick Stages, the Peninsula Rapid Transit Company, the Oregon Stages and the Southern Pacific Motor Transport Company. This latter was a wholly-owned subsidiary of the Southern Pacific, which railway still holds some 40 per cent of the stock of Pacific Greyhound. The operating company runs between 25 and 30 million bus miles annually, with extensive operations between Portland, Ore., and El Paso, Texas, including all the intermediate states.

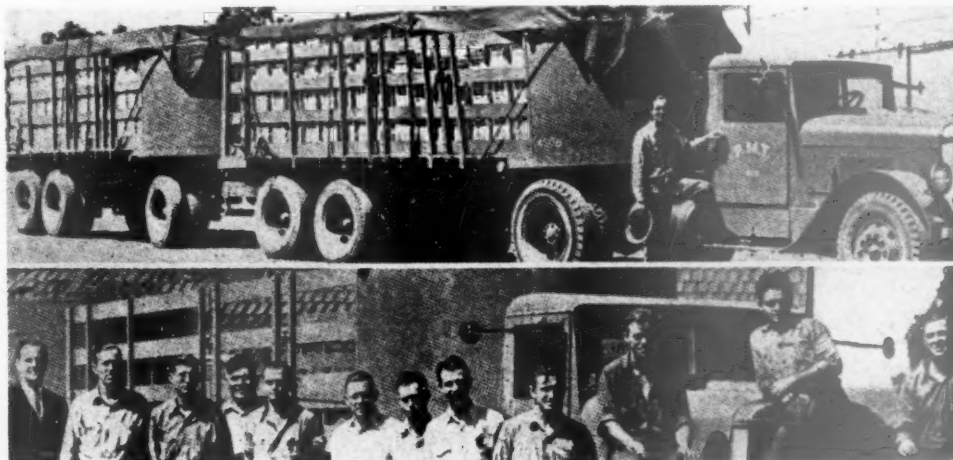
There are numerous other members of the group, including the Teche Greyhound Lines, the Northland Greyhound Lines, in which the Great Northern has a large stock ownership, and the Southern Kansas Greyhound Lines, owned by the Atchison, Topeka & Santa Fe and the St. Louis Southwestern, on which detailed information is not available. However, the information provided above will give some idea of the magnitude of this nation-wide bus system and the interests which the railways have in it.

Pears by Truck

LAKE county is one of the few counties in California without railway service, but, by use of rail-highway co-ordination, its 3,000-ton pear crop was given all the benefits of rail service this year. The Pacific Motor Trucking Company, wholly-owned highway subsidiary of the Southern Pacific, handled this highly perishable crop, trucking the fruit from the growing areas in Lake county to the storage houses and pre-cooling plants at Santa Rosa and Petaluma, preparatory to shipment over the rails of the Northwestern Pacific, also an S. P. subsidiary.

The crop movement began on August 9, and ended on September 23. The services of 30 men were required for the highway operations, including drivers, helpers and mechanics, while 8 tractors and 16 trailers were in constant service.

The Crews and Equipment Used
in Getting Pears from Lake County





The New Terminal of the Pacific Greyhound at Stockton, Cal.

Pacific Greyhound Builds New Terminals

DURING the last 18 months, the Pacific Greyhound Lines have spent more than \$1,200,000 in new terminal buildings. Chief among these was the Los Angeles terminal costing \$500,000, described in the Motor Transport Section of the *Railway Age*, issue of December 26, 1936. New terminals were also built in Stockton, Cal., and Napa. Terminal buildings have been purchased at Santa Cruz, Cal., and Marshfield, Ore., to which extensive improvements have been made. A new union bus terminal, in which the Pacific Greyhound is the principal participant, is now under construction at Portland, Ore. This terminal is estimated to cost a half million dollars. The accompanying illustration shows the latest terminal to be completed and placed in service. Situated in downtown Sacramento, the building is of steel and concrete, with a frame interior and plastered exterior. The main building is 80 by 80 ft., and off-street loading and unloading are provided. Modernistic colors and decorations are used throughout the structure which also contains the divisional offices on a mezzanine floor.

Unusual Rail-Highway Co-Ordination

THE Transandine Railway, which was kept in operation for some years by bridging a gap in the line with highway transport, is now being rebuilt at a large expense by the government of Argentina, and an unusual rail-highway venture will soon pass out of the picture. The Transandine was built several years ago by British capital to supply the only rail link between the Atlantic and Pacific across the South American continent. The construction was extremely expensive because the backbone of the Andes, the highest mountains in America, had to be crossed. However, after many

difficulties, the line was finally completed and opened for traffic in 1910. Violent thunderstorms, floods and heavy snows made the expense of operation great; however, considerable freight and passenger traffic was moved over the spectacular railway until December, 1930, when the government of Chile imposed a prohibitive duty on Argentine cattle, the chief item of freight. This resulted in a tariff war between the two countries, which completely deprived the railway of freight traffic. At about the same time, heavy floods destroyed nearly 100 miles of the line between Punta de Vacas and Mendoza.

Since then, passengers and freight on this transcontinental line have been handled by highway between the



How Motor Transport Linked Up the Transandine Railway Line

above-named points, subject, however, to frequent delays because of adverse weather conditions. This co-ordinated service will be abandoned when the reconstruction of the railway, estimated to cost \$1,800,000, is completed.

THE PRESIDENT OF AUSTRIA has conferred upon Charles Galloway, honorary consul of Austria in Baltimore, and vice-president in charge of operations of the Baltimore & Ohio, the first class of the Knight's Cross of the Austrian Order of Merit. The decoration was made for distinguished services in Mr. Galloway's capacity as Austrian representative in Baltimore. Mr. Galloway has also served as president of the Austria-America Society in New York since the last election in 1935.

S. P. Takes Over Collection and Delivery

EFFECTIVE January 1, 1938, the storedoor collection and delivery service, both intrastate and interstate, of the Southern Pacific will be operated in the name of the railway, instead of under the title of the Pacific Motor Transport Company, one of its wholly-owned highway subsidiaries. The change is being made to avoid inconvenience to shippers in having to use different tariffs and billing documents. The rates and service involved in this operation will remain unchanged, the only change being in the name of the company. The Pacific Motor Trucking Company, another wholly-owned highway subsidiary will continue as an operating company performing trucking service, including line-haul trucking in co-ordination with train service. The existing organization and personnel of the highway services will remain unchanged.

Highway Trucks on Rails

A DEMONSTRATION unit of a rail-truck built by Co-ordinated Transportation, St. Paul, Minn., was in operation in the Fridley yard of the Great Northern at Minneapolis, Minn., during the entire month of October.

The underlying theory of this experiment is the adaptation of any standard highway truck, from the smallest to the largest, to rail use, as shown in the accompanying illustration. The unit is equipped with a four-wheel drive and the rear axle is bolted to the rear springs and the drive shaft. Inner differentials and other gears are eliminated to reduce the loss of power. This rail-truck has a high speed reverse transmission, supplied with an auxiliary radiator which makes use of the vacuum created by the moving vehicle to give adequate cooling. Each wheel is equipped with two circular rubber inserts between the steel of the wheel and the steel tire, which

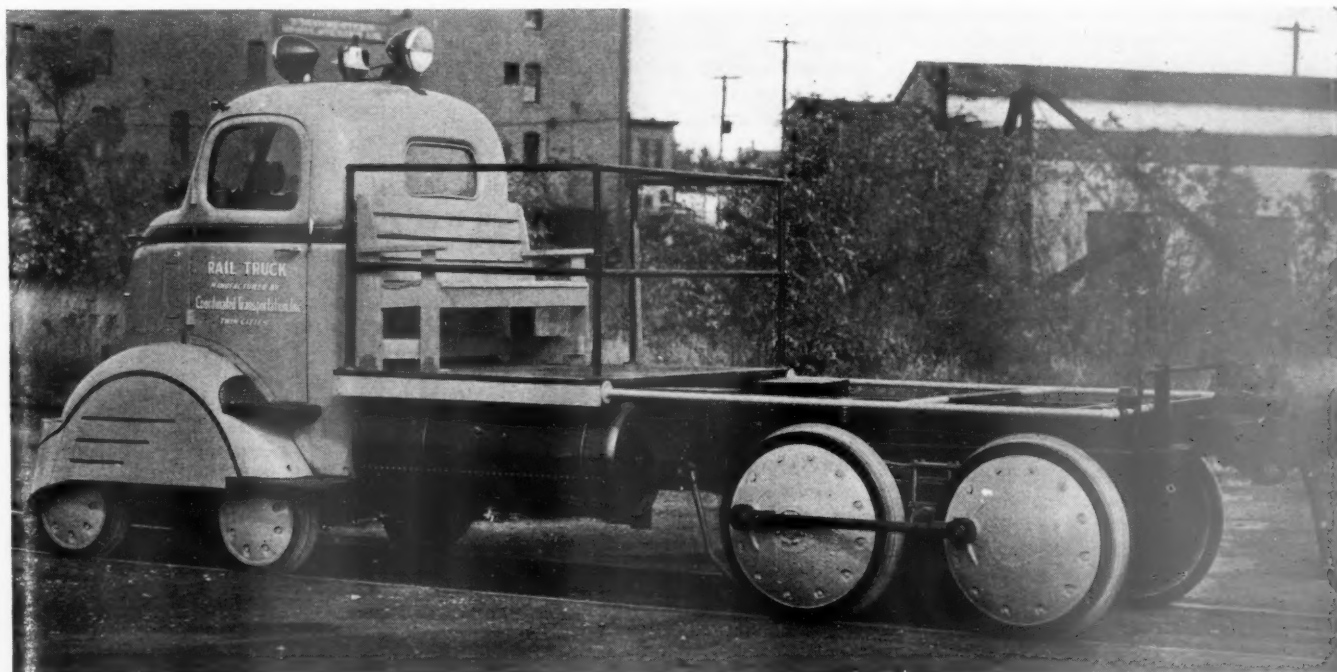
absorb vibration, deaden noise and prevent crystallization. The truck has air-actuated hydraulic brakes, and train air is supplied so that the unit may be used to pull freight cars. It is claimed that a 1½-ton truck can handle a loaded freight car. The smaller units may be equipped with either a passenger or freight body, while the larger trucks may have either type of body or a semi-trailer.

Arkansas Co-Ordination Authorized

THE Missouri Pacific has been operating rail-highway co-ordinations along its lines in Kansas, Nebraska and Missouri, and has plans approaching completion for a complete system in Louisiana. Until now, no authorities were granted for such operations in Arkansas. Within the past few weeks, however, the state corporation commission has given permission to the Missouri Pacific to operate a motor freight service between McGehee, Ark., and Warren, which also includes the right to operate passenger service along this highway. This is the first permit of the kind ever issued by the Arkansas corporation commission to a railway.

Rail Subsidiaries Lead in Safety

RESULTS for the first four months of the twelve-month national fleet safety contest being held by the National Safety Council show rail subsidiaries well in the lead. Division 1 of the Southwestern Transportation Company heads the inter-city trucking section, large fleets, by a wide margin, with 485,000 miles in the four months without an accident; while the Pacific Greyhound lines leads the safety list for large fleets in inter-city bus operation.



The Unit Tested by the Great Northern

NEWS

Hearings on Fare Increase in East

Wall of New Haven is lead-off witness—Commissioner Porter presides

Hearings on the eastern passenger fares phase of Ex Parte 123 were begun on December 23, by Division 7 of the Interstate Commerce Commission. Commissioner Porter presided.

The first witness for the carriers in the Eastern district, who are asking that the coach rate be increased from the present rate of two cents a mile to 2½ cents a mile, was Frank J. Wall, vice-president in charge of traffic of the New York, New Haven & Hartford, who began his testimony by telling the commission that passenger-train revenues, including mail and express, constituted 41.3 per cent of the New Haven's total operating revenues, and passenger revenues 31.7 per cent of the total. Commissioner Porter immediately spoke up and said that the figures quoted by Mr. Wall to show that the increase in fares would result in a larger net income assumed that under the increased rates the road would still carry the same number of passengers that it had previously been carrying. Mr. Wall admitted that some of the traffic might be diverted to parlor cars if the spread between parlor car and coach rates is increased. Commissioner Porter retorted by saying that this was merely Mr. Wall's opinion and that it was not based upon any facts. So Mr. Wall went on to justify the proposed increase by stating that the increase in expenses for passenger service had increased in much the same proportion as had the freight expenses. He also pointed out that New Haven coach travel (excluding commutation) comprises 93 per cent of the total number of passengers handled and provides 71 per cent of the total passenger revenue other than commutation. Examiner Koch, who sat with Mr. Porter, asked Mr. Wall whether or not he thought that the New Haven would be better off now if it had kept the 3.6 cent fare. Mr. Wall said that he did not think that there would be much difference in their total revenues if this were the case. In answer to one of Commissioner Porter's questions, Mr. Wall asserted that he was "looking for money and not for passengers or anything else."

Commissioner Porter said that he understood that the reason for lower freight rates in Eastern territory was the density of traffic. In view of this, he asked why

Western and Southern carriers were willing to charge a two-cent rate when they had a small travelling public to draw on and the New Haven, in the most-thickly settled territory in the country, wanted to raise the rate to 2½ cents. Mr. Wall tried to explain the difference by saying that his road had more passenger business and more passenger equipment than any other road and therefore had to utilize it more to earn anything on their investment. He also pointed out that they had the shortest hauls of any road in the country. When asked as to whether or not he thought people would object to paying the increased fares, Mr. Wall said, "Prices have gone up and people are expecting to pay more for the things that they buy."

Again citing an editorial in the *Railway Age* for October 23, Commissioner Porter said that the writer had satisfactorily demonstrated to him the difference between freight and passenger rates and their effect on revenues. Mr. Wall said that he agreed with the views of the editorial. Commissioner Porter also asked Mr. Wall whether he belonged to the school of traffic men who believed that a railroad should carry more passengers at a lower rate as contrasted with those who believe that they should carry less passengers at a higher rate. Mr. Wall asserted that he belonged to the former school.

During his testimony Mr. Wall expressed the belief that after an allowance is made for the diversion of passengers to buses and to parlor cars, the net revenue from the passenger business will increase, if the rates are granted. Citing the fact that the New Haven had placed in service during the past year 150 new cars and that all their main line trains are air-conditioned, Mr. Wall told the commission that he was after more traffic. Commissioner Porter replied, "It looks like this is a funny way to do it." Mr. Wall said that the proposed increase was nothing more than an experiment and that if it did not work, he would be the first to ask the commission to change it. To this statement, Commissioner Porter replied, "You were the last to say so in the last case."

F. W. Conner, assistant passenger traffic manager of the Pennsylvania, testified generally regarding passenger service on the Pennsylvania and characterized air-conditioning as "the greatest single step in the improvement of passenger transportation in this century". Other witnesses scheduled to appear were L. W. Landman, general passenger traffic manager of the New York Central and H. M. Bassett, transportation engineer of the New York Central.

Wheeler Hearings Are Continued

Committee finds that roads made false annual reports to the commission

As Senator Wheeler resumed hearings of his sub-committee investigating the financial set-up of the Pennsylvania his committee investigators read into the record a list of the road's thirty largest stockholders of record as carried on the Interstate Commerce Commission's books. It was brought out that there is only one class of Pennsylvania stock and that there are now outstanding more than 13,000,000 shares. The thirty persons or corporations listed hold 942,659 shares, of which 469,159 are held for 2,186 individuals, firms or corporations whose names are not carried in the I.C.C. records. In 18 cases the stock is carried in the name of nominees, the committee investigators brought out, and in every instance except one the nominee was a New York bank or trust company. The exception was the Bank of Montreal.

Martin W. Clement, who was again the chief witness, testified that 53 per cent of all the Pennsylvania stock is held by 218,000 stockholders. He also pointed out that the directors of the company own 33,738 shares. Answering a question of Senator Wheeler's, Mr. Clement said that between 200 and 300 stockholders had attended the last meeting. Senator Wheeler charged that when the Pennsylvania had purchased \$63,000,000 of Wabash stock which today is worth only around \$4,000,000, the stockholders had no way of adequately expressing themselves. Mr. Clement replied by saying that they had the right of approval, and he went on to point out that the directors had tried to do everything they could to serve the best interests of the stockholders. The remainder of the day's session was devoted to a discussion of how directors of the Pennsylvania were elected. Mr. Clement denied that directorships were ever offered to men because of the fact that they might be large shippers. On the subject of control, Mr. Clement asserted that there might be banker-dominated roads in this country, but that the Pennsylvania was not one of them.

The session at which Mr. Clement's testimony was concluded was featured by the committee staff's introduction of various exhibits contrasting the financial state-

(Continued on page 929)

Truman Hits At Reorganizations

Missouri Senator criticizes law firms for so-called "unethical" acts

Characterizing the recent reorganizations of railroads as "the biggest racket on earth," Senator Harry Truman of Missouri, who has recently been acting as chairman of the Senate sub-committee investigating the finances of railroads, on December 20, described to the members of the Senate the evidence his committee has been uncovering regarding the reorganization of such railroads as the Chicago, Milwaukee, St. Paul & Pacific and the Missouri Pacific. He began his speech by citing the "preferred list" of the J. P. Morgan & Co. and a similar list maintained by the New York banking firm of Kuhn, Loeb & Co., and asserted that on both lists there were executives of life insurance companies, lawyers, bankers and railroad executives.

Senator Truman went on to say that "in the reorganization of various railroads investigated by the Senate Committee on Interstate Commerce, the reorganizations were carried on by committees from the great insurance and trust companies. It is curious to note that a number of these committees represented institutions some of whose officers and directors were members of the preferred list. Kuhn, Loeb had a preferred list also. They sold hundreds of millions of rail bonds to the insurance and trust companies, and on the reorganizations in which they are interested many of the same names appear as appear in the ones in which Morgan is interested.

"The Missouri Pacific, the Chicago, Milwaukee, St. Paul & Pacific, the Chicago & Eastern Illinois, the Frisco, the Rock Island, the Cotton Belt, the Seaboard—to a considerable extent the same reorganization committee personnel, same lawyers," asserted the Missouri Senator. "Why, it's almost a racket, or, I might say, the biggest racket on earth."

Recalling the case of the Frisco, Senator Truman severely criticized what he called the "looting of the road," and added: "Some of the so-called investment bankers had a gratuity list. This consisted of high rail officials. One in particular was E. N. Brown, chairman of the board of the Frisco. Speyer & Co. paid him a gratuity of \$100,000 a year, and the poor old Frisco paid him as chairman of the board to help Speyer & Co. loot it. I informed the Senate some time back about this situation. The gratuity list has just recently come to light in a court proceeding in St. Louis."

Senator Truman paid particular attention to what he described as "the court and lawyer situation" and asserted that it needed public attention. He then proceeded to name such well-known legal firms as Cravath, de Gersdorff, Swaine & Wood, attorneys for Kuhn, Loeb & Co., and Davis, Polk, Wardwell, Gardiner & Reed, attorneys for J. P. Morgan & Co., as firms "mixed up" in numerous railroad receiverships. He also included the firm of Winston, Strawn & Shaw of Chicago.

"Do you see how it pays to know all about these things from the inside?" Senator Truman continued, "how these gentlemen, the highest of the high-hat in the legal profession, resort to tricks that would make an ambulance chaser in a coroner's court blush with shame. The same gentlemen, if the past is any guide to the future, will come out of the pending receiverships with more and fatter fees and wind up by becoming attorneys for the new and reorganized railroad companies at fat yearly retainers; and they will probably earn them, because it will be their business to get by the Interstate Commerce Commission, to interpret, and to see that the courts interpret, laws passed by the Congress as they want them construed. These able and intelligent lawyers, counsellors, attorneys, whatever you want to call them, have interviews and hold conferences with the members of the Interstate Commerce Commission, take them to dinner and discuss pending matters with them.

"The commission, you know, is the representative of the public and it has its lawyers also, but the ordinary government mine-run bureaucratic lawyer is no more a match for the amiable gentlemen who represent the great railroads, insurance companies and Wall Street bankers, than the ordinary lamb is a match for a butcher. The situation deserves your closest thought and considerations, members of the Senate, because one of the witnesses before your committee stated that the only hope of the railroads is right here. I hope that we can find the solution. I think it will require a major operation and the sooner we face it the better it will be for the country and the railroads.

"I don't think we can solve the problem by pouring more government money into broken-down financial structures, or by merely tinkering with rates. The whole structure must be overhauled. Rates, finances, management, co-ordination, consolidation must be studied. The problem can be solved. But not through the kind of a panacea that Wall Street has put forward in the past—panaceas that are basically and fundamentally unsound and that have been proved in experience to be unsound and which simply serve the interests of Wall Street at the expense of the public interest."

Senator Truman concluded his speech by adding a bit of advice. "There is no magic solution," he said, "to the condition of the railroads. But one thing is certain—no formula however scientific will work without men of proper character responsible for physical and financial operations of the roads and for the administration of the laws provided by Congress."

The Senator's speech was often interrupted by Senators asking him about specific points. Several times various Senators expressed amazement at the revelations and stated that they had no idea that this information had been made public.

Annual Meeting Freight Claim Division

The annual session of the Freight Claim division of the Association of American Railroads will be held at Chicago on June 7-9, 1938.

Forwarding Case Arguments Heard

Twelve counsel appear before I.C.C. at December 21 Washington session

Oral arguments in connection with the Interstate Commerce Commission's freight forwarding investigation were held before the full commission in Washington, D. C., on December 22. Counsel for 12 interests were scheduled to make oral presentations with the bulk of the time allotted to I.C.C. Attorney William J. Walsh, General Solicitor T. P. Healy of the New York Central, J. R. Turney, counsel for Acme Fast Freight, Inc., and R. E. Quirk, counsel for National Carloading Corporation. No appearance for Universal Carloading & Distributing Company was listed.

Examiner R. N. Trezise's proposed report in this proceeding was abstracted in the *Railway Age* of September 25, page 411. It reached 32 recommended findings, among which was one holding that proper co-ordination of forwarder operations with railway service "is not to be found in the forwarder appearing in the transportation arena as a shipper, but as a common carrier transportation agency . . . essentially as an express company" regulated under Part I of the Interstate Commerce Act.

Mr. Healy endorsed this statement, which he quoted in the course of his argument after telling Commissioner Mahaffie that he thought joint-railroad-affiliate status for forwarders was the "ultimate solution." Mr. Healy would not, however, turn the job over to the Railway Express Agency—he does not favor superimposing the "specialized" forwarder operations on the Express Agency set-up. Several members of the commission manifested considerable interest in the "expert-I.C.C. handler" role in which the forwarder is often cast; and Mr. Healy finally conceded that the forwarder "has no special patent", although he does think that such agencies have done a "fine job"—that the railroads should not destroy their "side-partners."

I.C.C. Attorney Walsh, the first speaker, directed his argument in the main to the specific abuses and alleged violations of law which were found by the proposed report to exist in the present set-up. He cited in this connection railroad practices of leasing facilities to forwarders at nominal rentals; the all-commodity rates which have enabled forwarders to expand their operations, but which are not generally adapted to use by other shippers; railroad losses on loading operations performed for forwarders; the use made by forwarders of the stop-off privilege, "follow-lot" cars and the car-ordering maneuvers whereby they get the battery of cars required for their operating convenience.

In connection with the foregoing, Mr. Walsh continued, the term "carrier convenience" has come up in the case "a couple of hundred times." He admitted that carrier convenience must be served in bona fide cases, but he does not believe it should be used as an excuse to violate

tariffs or to justify discriminations. In response to a question from Commissioner Porter the I.C.C. attorney agreed that the Pennsylvania does not regard the forwarder as a necessary agency, adding that the Louisville & Nashville "is even more emphatic"—it used the term "parasite"—and the Boston & Maine is not "too enthusiastic."

Asked by Commissioner Rogers if the record showed any reason for the development of the forwarder business, Mr. Walsh replied that the railroads claim it meets highway competition. He added, however, that short-haul traffic was generally regarded as being most susceptible to diversion to the highway; and the forwarders' average haul is 750 miles.

Mr. Healy's argument was interrupted frequently by various questions from the bench, and much of his one-hour allotment was consumed in answering the commissioners. He said that he appeared to offer a general discussion of fundamentals on behalf of the New York Central and several other roads, including the Wabash, Central of New Jersey, Chesapeake & Ohio, Delaware & Hudson, Delaware, Lackawanna & Western, Erie, Illinois Central, New York, Chicago & St. Louis, Pere Marquette, Reading and Lehigh Valley. These roads, Mr. Healy asserted, claim that the forwarder method is "both lawful and efficient", and that it would be "wasteful and uneconomical" for each railroad to do the job.

Here Commissioner Aitchison interrupted to ask how the forwarder could do a better job on a shipment from Portland, Ore., to Washington than, for example, the Union Pacific and Baltimore & Ohio. Mr. Healy replied that the forwarder could better concentrate on the through job, but Commissioner Aitchison continued to press his point. Whereupon Mr. Healy conceded that perhaps there would be little difference in the "isolated instance" under discussion, but he denied that the instance was typical.

His clients' principal exception to the proposed report, Mr. Healy continued, goes to the examiner's failure to keep in mind the idea that the forwarding plan is simply a method of handling l.c.l. The examiner, he went on, was unduly impressed by details of operation; he saw the forwarder traffic as carload traffic, and regarded "little differences" in handling as violations of the law.

Asked by Commissioner Rogers if the railroads wanted any l.c.l. business, Mr. Healy replied in the affirmative but added that the New York Central would rather put it in forwarder cars, which would give it more net. Some further discussion as to whether the railroad or the forwarder should bear the burden of the unprofitable l.c.l. business led to a reference to Mr. Healy's positions as general solicitor of the New York Central and a director of the Universal Carloading & Distributing Company. Mr. Healy saw no conflict of interest.

Next Commissioner Splawn was "unable to understand" from the argument how the forwarder can work more efficiently than a big railroad system like the New York Central. Mr. Healy's reply that the forwarder is a specialist, prompted Com-

missioner Rogers to ask if the N. Y. C. could not hire these l.c.l. "experts" which Universal has succeeded in recruiting. Mr. Healy thought it could, but he saw other factors in the forwarder's superiority. And Commissioner McManamy asked if the New York Central is not a specialist in handling the traffic which comes to it. Mr. Healy said it was, as to rail service, but the forwarder is able to use all forms of transportation to advantage. It was when Mr. McManamy followed through to ask why the N. Y. C. could not do the same, that Mr. Healy made the above-mentioned remark that the forwarder "has no special patent."

Commissioner Porter again referred to the Pennsylvania's attitude reading from that road's brief its claim that it could do the l.c.l. job better without the "profit-absorbing" intervention of the forwarder. Mr. Healy called the commissioner's attention to the fact that the P. R. R. "was careful" to limit the language quoted to l.c.l. on its own lines—and the forwarder business "is not a local proposition."

Mr. Healy closed with a plea for findings, among others, that the forwarder serves a useful purpose; that as long as rates vary as to quantities offered it will have a useful field in which to operate; that it renders a more efficient service than railroad l.c.l. operations; and that it is an effective means of meeting truck competition.

Counsel for other railroads made only brief presentations, directed mainly to specific findings of the examiner. Arguments of forwarder counsel—Mr. Turney and Mr. Quirk—followed generally those of their briefs which were abstracted in the *Railway Age* of November 20, page 734.

P.R.R. Installs Radio for Head to Rear-End Communication

The use of short wave radio for communication between locomotive and caboose was demonstrated on December 14 by the Pennsylvania on a train carrying merchandise from Philadelphia, Pa., to western and southern destinations. The railroad has been experimenting with end-to-end freight train communication for a considerable period, but this was the first occasion on which observers outside the rail-

road's own official family were given the opportunity to appraise the results.

The tests were made on the train "P-9", which leaves Philadelphia transfer, in the Fifty-second street yards, every morning with loaded merchandise cars for Enola yard, opposite Harrisburg, Pa., where the cars are combined with others arriving from various points and reclassified for dispatching to many cities of the Central West and South.

After a series of preliminary trials of the apparatus in the yards, numerous tests were made while the train was in operation as far west as Paoli, Pa. The exchanges of conversation between the locomotive and cabin car were pronounced by visitors to be as clear and distinct as in ordinary telephoning, and the operation of the apparatus itself equally simple. The apparatus tested was developed by the Radio Corporation of America with the co-operation of Pennsylvania electrical and communication engineers.

P. S. Treiber Moves Headquarters

Effective December 15, the headquarters of P. S. Treiber, northwest representative of the Freight Container Bureau of the Association of American Railroads, operations and maintenance department, was transferred from Portland, Ore., to Seattle, Wash.

Nettleton Heads Washington Transportation Club

J. G. Nettleton, general agent of the Pennsylvania, was elected president of the Washington (D. C.) Transportation Club for the year 1938 at a meeting held on December 16. Other officers elected are: First vice-president, F. F. Crabbe, general agent, Chicago, Burlington & Quincy; second vice-president, G. L. Bryson, district freight and passenger agent, Central Vermont; secretary-treasurer, O. E. Shaw, general agent, A. H. Bull & Company, Inc.

Santa Fe Directors Approve 1938 Budget

The directors of the Atchison, Topeka & Santa Fe, at a meeting in New York on December 21 approved a budget of \$35,192,802 for 1938, including the carry-over.



Conductor Sultzberger, in Charge of Pennsylvania Freight Train "P-9," is Shown Reading a Message Held by Assistant Yardmaster Fallon, Giving Instructions to the Locomotive Crew at the Other End of the Train, a Half Mile Away.

This compares with a budget for 1937 of \$41,094,000. The expenditures authorized for next year cover additions and improvements to the railroad's property and include \$7,221,049 chargeable to operating expenses.

Wheeler To Hold Hearings On Pettengill Bill

Senator Wheeler has announced that he will appoint a subcommittee of the Senate Interstate Commerce Committee to hold hearings on the Pettengill long-and-short-haul bill. He intimated that arrangements might be made for hearings in January.

"Rockets" Well Patronized

A total of 82,906 passengers, or an average of about 200 per train per day, were carried by the six "Rockets" placed in service by the Chicago, Rock Island & Pacific in August, September and October. The four revenue cars of the Peoria Rocket carried 36,613 revenue passengers on two daily round trips from September 19 to December 11, a daily average of 436.

Substitute Truck Service

The Interstate Commerce Commission has issued sixth-section permissions providing for the continuance of rates over routes embracing substitute services by motor vehicle established by both rail and water carriers. The action promulgates rules for the substitute services which are virtually the same as those which have been in effect for limited periods since March, 1936.

"Hiawatha's" Business Increases Every Month

The business of the Chicago, Milwaukee, St. Paul & Pacific's "Hiawatha" and its extra sections has shown an increase in

every month as compared with the same month of the previous year since the train was placed in service on May 29, 1935, between Chicago and the Twin Cities. During the seven months of 1935, this train handled 140,390 passengers; during 1936, 289,910 passengers; and during the 11 months of 1937, 301,542 passengers. On November 30 the total number of passengers handled since May 29, 1935, had reached 733,929, including 363,850 passengers westbound and 370,079 eastbound, or an average of 801 passengers per day.

Railroads Observe the Yuletide Through Music

Informal organ concerts and carol singing are again included among the means by which some of the carriers join in the Christmas celebration. This year, as last, commuters and travelers passing through New York's Grand Central terminal, of the New York Central and the New York, New Haven & Hartford, and Pennsylvania station, of the Pennsylvania, Lehigh Valley and Long Island, were greeted with the strains of organ music. The instruments were placed in the main waiting-room of each station and informal programs of semi-classical and light opera selections in tune with the atmosphere of the season were rendered thereon.

As an addition to its holiday efforts, the New York Central presented on Christmas eve, between 4 and 6 p. m., a mixed choir of 72 voices from a New York church in a program of Christmas carols. Similar recitals were sung in the Albany, N. Y., and Buffalo main stations of the road.

The Baltimore & Ohio, on December 23, inaugurated a Christmas feature unusual to American passenger trains. On that day groups of carolers sang Christmas songs in coaches and club and Pullman cars on

all of the road's principal trains between New York and Cumberland, Md. In groups of three, representing the "waifs" who go about from door to door at Christmas in England, the singers passed from car to car, intoning old Christmas melodies. Also, wherever time permitted, they greeted en-training passengers at railway stations.

Garbed in traditional English costume, each group carried a lantern and a large carol book, the latter held by a member of the trio whose high hat and long cape resembled Dickens' "Mr. Macawber." Another member carried a long, brass "tally-ho" horn. All the carolers were members of the Baltimore & Ohio Women's Music Club, composed of women employees and members of B. & O. families, which, for more than a decade has sung Christmas carols in the road's shops, stations and office buildings in Baltimore, Md., at the holiday season.

Kansas City Traffic Club Elects Officers

The following have been elected officers of the Traffic Club of Kansas City for the ensuing year: president, Frank E. Wall, general agent of the Fort Smith & Western; first vice-president, Arthur E. Lucas, traffic manager of the Morton Salt Company; and second vice-president, Walter M. Haenssel, division freight agent of the Baltimore & Ohio-Alton.

National Enthusiast Group to Hold "Railroad Auction"

The National Railway Historical Society, Philadelphia (Pa.) chapter, will hold on January 6, 1938, what the organization terms "a railroad auction," at which time photographs of locomotives, old timetables, scale drawings, model parts and other "treasures" of the normal railroad enthusiast will be auctioned off. Visitors are welcomed to participate in the buying.

U. P. Affiliate Gets Bus Certificate

The Interstate Commerce Commission, Division 5, has granted the Union Pacific Stages, affiliate of the Union Pacific, a certificate for the operation of a common-carrier bus service on the 91-mile route between Coeur d'Alene, Idaho, and Moscow. The decision also authorizes the operation of chartered bus service provided such business originates in the U. P. Stages territory or is received by it from other carriers on its routes.

Locomotive Tire Manual Issued by Mechanical Division

In Circular D.V.-929 just issued by the A. A. R. Mechanical Division through the office of Secretary V. R. Hawthorne, the statement is made that one of the most important subjects before the mechanical department of American railways is that of locomotive tire work. Large sums of money are expended in the purchase, machining and application of tires.

Based upon the reports of tire failures from a large proportion of railroads of the country, the Committee on Locomotive Construction has been impressed with the lack of appreciation on the part of many



A Christmas Carol Trio Entertains on the B. & O. Royal Blue

shop mechanics, foremen, and even officers, of the existence of improper shop practices in effect, including care of tires in handling and storage, machining of tires and wheel centers, application and damage due to welding. It is essential that employees who are responsible for tire work in the shops and inspection on the line, should have a thorough understanding of their work. It is for this reason that this manual has been prepared and approved by letter ballot. It contains information for inspectors, mechanics in the shops and supervisory officers.

North Carolina Intrastate Rates

The Interstate Commerce Commission in No. 27900 has upon its own motion entered upon an investigation of the intrastate scale of class rates prescribed by the North Carolina Utilities Commission in its order of June 16. Railroads operating in North Carolina had filed with the I. C. C. a petition averring that the state regulatory body's order set up intrastate rates on a basis lower than the interstate scale; and that such action results in discrimination against interstate commerce.

"Daylight" Establishes Record

Record earnings per mile and record patronage have been established by the "Daylight," placed in service by the Southern Pacific between Los Angeles, Cal., and San Francisco on March 21. Up to November 30, this train had handled a total of 188,227 revenue passengers, 94,484 southbound and 93,743 northbound, an average of 738 per day. Its earnings per train mile during the period average \$5.16 northbound and \$5.05 southbound. During July they averaged \$6.19 southbound and \$5.95 northbound.

Rehearing on Lake Coal Practices

The Interstate Commerce Commission has assigned No. 27266, Lake Coal Demurrage, for further hearing at Washington, D. C., on February 7, 1938, before Examiners Koch and Burslem. The latter's proposed findings, following previous hearings in the proceeding, were summarized in the *Railway Age* of November 6, page 657. In his 184-page report Mr. Burslem recommended 18 findings, including those charging that the practices of the railroads handling lake cargo coal to Lake Erie and Lake Ontario ports result in violations of the Interstate Commerce Act and in some instances of the Elkins Act.

Election Ordered Among Pacific Greyhound Bus Drivers

The National Labor Relations Board has directed that elections be held among the bus drivers of the Pacific Greyhound Lines, affiliate of the Southern Pacific, to determine whether they desire to be represented by the Brotherhood of Locomotive Firemen & Enginemen or by the Amalgamated Association of Street, Electric Railway & Motor Coach Employees of America, affiliated with the American Federation of Labor, or by neither.

The Board's decision to hold the election found that the company, in the face of an effort by the brotherhood to present claims of a majority representation, signed

an agreement with Amalgamated although no proof of Amalgamated majority membership had either been requested or proffered. Also, that both before and after this agreement was signed on April 21, the company actively encouraged membership in Amalgamated and discouraged membership in the brotherhood.

Coal-Price Hearings January 10

The National Bituminous Coal Commission has set January 10 as date for hearing the petition of the Association of American Railroads, the American Short Line Railroad Association and Consumers' Counsel complaining against the minimum prices for railroad locomotive fuel. The railroads' petition, which was outlined in the *Railway Age* of December 18, related that they are consumers of approximately 22 per cent of all bituminous coal produced in this country and that unless the minimum prices for locomotive fuel are modified, their annual operating expenses will be increased by \$21,000,000.

Rail Bombers Convicted

The 36 defendants in the federal bomb conspiracy case, arising out of the dynamitings during the Illinois mine union warfare from 1932 to 1935, were found guilty by a jury in the district court at Springfield, Ill., on December 18. Under the verdict, each defendant faces a maximum sentence of four years in a federal penitentiary and a fine of \$20,000. The defendants were found guilty on all three counts in two indictments, charging obstruction of the mail, violating the federal anti-racketeering law and bombing trains to intimidate mines and railroads from transporting in interstate commerce coal mined by the Progressive Miners of America.

There were originally 41 defendants in the case, but five of them were dismissed at the close of the government's case on December 1. One was granted a mistrial because of illness and four were freed on direct verdicts of not guilty.

A motion for a new trial was made by defense counsel and was continued to December 22.

Handbook on Eye Hazards in Industry Available at Reduced Price

The book entitled "Eye Hazards in Industrial Occupations," by Louis Resnick and Lewis H. Carris, is now being offered by the National Society for the Prevention of Blindness at the special price of 50 cents per copy. Containing 247 pages and 59 illustrations, the book, which sold formerly at the actual cost price of \$1.50, was published in 1924 as a guide to safe practices in industry.

Orders or inquiries should be addressed to the National Society for the Prevention of Blindness, 50 West 50th street, New York.

Canadian Express Rates Lowered on Dec. 20

Substantial reductions in charges on express packages of 25 lb. and under for delivery to all points in Canada, with a corresponding reduction in charges on heavier packages moving between transcontinental

points, were placed in effect on December 20, by constituent companies of the Express Traffic Association of Canada. The small minimum charge on packages of one lb. or less has been maintained, however.

The reductions in charges on such packages have been arranged for the advantage of shippers who forward packages by express and were placed in effect in time to be of advantage in the forwarding of Christmas shipments. The new rates will be maintained until further notice.

Club Meetings

The New England Railroad Club will hold its next meeting on January 11 at 6:30 p. m. at the Hotel Touraine, Boston, Mass. At that time, William H. Mussey, engineer of research, Pullman-Standard Car Manufacturing Company, will present a paper entitled "The Development of Basic Principles Governing Car Design and Construction." A sound film covering passenger car construction will also be shown.

The Traffic Club of Pittsburgh, Pa., will hold its 37th annual dinner at the William Penn hotel, Pittsburgh, on January 8, 1938.

Judge Orders Abandonment of Westchester Road on December 31

Judge Knox of the federal district court for Southern New York on December 22 signed an order calling for complete abandonment of service by the New York, Westchester & Boston at midnight, December 31. The road, an electric line now operating between Bronx borough, New York, and New Rochelle, N. Y., has been in receivership since August 21, 1937, which followed a trusteeship originating December 5, 1935. On October 31, the road abandoned operation of its New Rochelle-Port Chester branch by a similar order of Judge Knox.

In the order for complete abandonment, which followed a hearing held on December 17, Judge Knox held that the road is "definitely insolvent" and that no equity remains for stockholders or unsecured creditors. The New York, New Haven & Hartford owns practically all of its capital stock.

Drop in Freight Cars on Order

A sharp drop in the number of new freight cars on order on December 1, this year, compared with the same period in 1936, was shown by reports made public by the Association of American Railroads on December 20. New freight cars on order on December 1, totaled 12,566 compared with 18,305 on November 1, and 19,844 on December 1, 1936. This year's December 1, figure was, however, greater by 8,076 than that of December 1, 1935.

New steam locomotives on order on December 1, totaled 156 compared with 111 on the same day in 1936 and 14 on the same day in 1935. New electric and Diesel locomotives on order totaled 40 compared with five last year and three, two years ago.

Class I railroads in the first eleven months this year installed in service 70,168 new freight cars compared with 39,556 in the same period last year and 6,754, two years ago. Of the new freight cars in-

stalled so far this year, coal cars totaled 35,897; box cars, including both plain and automobile, 27,531; flat cars, 1,753; stock cars, 505, and miscellaneous cars 267. In the eleven months' period this year, 342 new steam locomotives were put in service compared with 77 in the same period last year and 31 in the same period in 1935. New electric and Diesel locomotives installed in the first eleven months of 1937 totaled 59. In the same period last year there were 32, and in the same period two years ago, 102.

New freight cars and locomotives leased or otherwise acquired are not included in the above figures.

No Reason for Selling Federal Barge Line, Says President

President Roosevelt sees no reason for selling the government-owned Inland Waterways Corporation to private interests so long as it is operating in the black, according to his December 17 comment on the Mobile, Ala., announcement of the corporation's chairman, Major General T. Q. Ashburn, who said there on December 16, that an offer from private interests had been rejected.

Asked if he cared to comment on press reports wherein General Ashburn was quoted as saying that "public reaction from the President on down" was against the sale, Mr. Roosevelt replied that he had not heard of the offer; nor had he thought about the Federal Barge Line since sometime about a year ago when he had been advised by the General that the corporation was operating in the black. To another question going to the matter of the Barge Line's purpose being to demonstrate to private interests the practicality of water transportation Mr. Roosevelt replied that he saw no reason for swapping horses when present results were satisfactory. Upon his return to Washington, General Ashburn said that the offer had been considered by the Secretary of War.

Accounting Officers' Conference

Another of a series of "round table" conferences of railway accounting officers, members of the Accounting Division of the Association of American Railroads, was held in Washington on December 8 under the sponsorship of Chairman T. F. Darden (vice-president, A. C. L.). Approximately 125 accounting officers attended the conference, which was conducted in the same manner as those previously held. These conferences were inaugurated last year during F. J. Fell's tenure of office as chairman of the division for the purpose of enabling the railway accounting officers to discuss fundamental problems of professional interest. Some of the discussions are "off the record," these being followed by an "open forum" during which those present may place before the conference any matters in which they may be vitally interested.

During the Washington conference, a short address was delivered by Donald D. Conn, executive vice-president, Transportation Association of America, concerning the activities of that Association. Dr. C. S. Duncan, economist of the Association

of American Railroads, discussed the subject of "Public vs. Private Credit in Transportation," in a paper which will be published in an early issue of *Railway Age*. The chairman of the national tariff simplification committee (W. J. Kelly) outlined the committee's activities and the present status of its work, in which E. H. Bunnell, accounting vice-president of the A. A. R., outlined briefly to the conference some of the more important matters being given current consideration by his department. A timely discussion was conducted with respect to requirements of the Railroad Retirement Board and the various State Unemployment Compensation Commissions in connection with maintaining service and compensation records of employees.

Chairman Darden announced that the next conference would be held either at Chicago or St. Louis in the Spring.

Freight Car Loading

Loading of revenue freight for the week ended December 11 totaled 622,131 cars, a decrease of 1,206 cars or 0.2 per cent below the preceding week, a decrease of 116,965 cars or 15.8 per cent below the corresponding week in 1936 and a decrease of 122,222 cars or 16.4 per cent below the same week in 1930. All commodity classifications except coal and coke showed decreases under the preceding week, while all commodity classifications except ore showed decreases under last year. The summary, as compiled by the Car Service Division, Association of American Railroads, follows:

Revenue Freight Car Loading			
For Week Ended Saturday, December 11			
Districts	1937	1936	1935
Eastern	132,414	164,987	139,342
Allegheny	108,270	148,982	121,791
Pocahontas	46,097	53,821	43,335
Southern	98,558	110,005	90,316
Northwestern ...	73,861	85,072	72,638
Central Western.	102,260	114,336	96,146
Southwestern ...	56,671	61,893	53,082
Total Western Districts	236,792	261,301	221,866
Total All Roads.	622,131	739,096	616,650
Commodities			
Grain and Grain Products	35,035	35,855	29,236
Live Stock	14,738	16,778	14,114
Coal	157,001	170,664	132,180
Coke	6,472	11,315	8,056
Forest Products ..	26,908	34,285	27,496
Ore	8,618	8,156	7,551
Merchandise			
L.C.L.	150,116	166,901	156,245
Miscellaneous ..	223,243	295,142	241,772
December 11 ...	622,131	739,096	616,650
December 4 ...	623,337	745,295	638,518
November 27 ...	558,627	680,300	571,878
November 20 ...	647,251	789,772	647,924
November 13 ...	689,614	784,980	629,728
Cumulative Total, 50 Weeks	36,929,269	34,770,049	30,436,780

Federal Court Dismisses N. J. Attack on Intrastate Rate Decision

A petition of the New Jersey Board of Public Utility Commissioners, requesting that an order of the Interstate Commerce Commission regarding intrastate rates between points in New Jersey, within the Philadelphia, Pa., metropolitan area, and points in northern New Jersey, be set aside and annulled, was dismissed by a decision handed down by a special three-judge federal court at Trenton, N. J., on December

18. The state board sought to enjoin enforcement of the Interstate Commerce Commission order issued in September, 1934, which, for the establishment of intrastate rates, grouped Camden and other South Jersey points with Philadelphia, Pa., and New Jersey communities within the New York metropolitan area with New York, so that rates between the New Jersey points in question would correspond with interstate rates between Philadelphia and New York. Such decision the commission based upon opinion that strict mileage rate scales should be modified when they violate the principle that communities which are social or economical units should not be divided in rate-making.

In reply to the utility board's contention that it had been denied a full hearing before the Interstate Commerce Commission, the court held that the state had been permitted ample hearing in the so-called "lighterage case," in which identical issues were involved.

The judges hearing the case were Judge Davis of the United States Circuit Court of Appeals and Judges Avis and Forman of the United States District Court of New Jersey. The opinion was written by the latter.

R.F.C. Has Loan Funds to Tide Over Old Customers

Coffers of the Reconstruction Finance Corporation remain open to railroads which are "old customers" of the government lending agency according to Chairman Jesse H. Jones' December 16 announcement which was confirmed by President Roosevelt on the following day. Neither the President nor Mr. Jones regard this as an abandonment of the recently-announced plan of stopping R. F. C. lending; the statement in the latter connection, Mr. Roosevelt pointed out, was a general policy announcement which comprehended emergency loans. This bore out Mr. Jones' statement of the previous day to the effect that the President didn't mean that there would be no further assistance for present borrowers. The Erie has already applied for a \$6,000,000 loan and the Boston & Maine, in a recent petition to the Interstate Commerce Commission, announced its intention to apply for \$2,000,000.

Mr. Jones answered questions of reporters covering various phases of the railroad problem, expressing the view that if the railroads do not obtain additional revenues by April they will be "out the window." Meanwhile, he said the R. F. C. has got a "little money" for railroads—he thinks whatever is required by the few roads which need tiding over until they get additional revenues. Pressed for an aggregate figure, Mr. Jones said it would be "nothing like" \$50,000,000—not even \$25,000,000. He does not anticipate many applications.

In response to further questioning Mr. Jones said that he saw no possibility of government ownership in the near future. He would favor consolidations of railroads but he doesn't know what kind of legislation should be passed in that connection. He thinks the R. F. C. will "come out all right" on its railroad loans, and, although it is not now contemplating any loans for

the purchase of railroad equipment, it would be glad to make them at its regular interest rates.

The lending agency's November statement shows that as of the close of last month total disbursements in connection with railroad loans were \$537,126,239.11; total repayments, \$181,203,224.62.

Publisher Calls C. N. a National "Burden"

Charging that the Canadian National is a "burden" on the Canadian people and that its history "was not one scandal but a series of scandals," John Bassett, president of the "Gazette," Montreal, Que., told 2,000 members of the Commercial Travelers' Association of Canada at a dinner held in Toronto, Ont., on December 17, that the Canadian railroad problem must be solved. Pointing out that of the \$8,000,000,000 debt of the Dominion government more than \$3,000,000,000 had been incurred in the construction and operation of the government-owned Canadian National, Mr. Bassett urged that the problem be placed before the people. Reviewing the history of the system, he stated that "the Grand Trunk Pacific [constituent road absorbed by the Canadian National] was built at a terrific cost because politicians and not railway men had decided how it was to be built."

Further he said: "The Canadian people never asked anybody for a publicly-owned railway system. It was given to them by a series of governments and now we have to pay the bill. It has turned out to be an expensive present. . . . Let another serious depression come and the decision of the railway problem will be made without the people's consent by the force of crushing economic circumstances."

Only Four Ex Parte 115 Increases Suspended

Railroads drew Interstate Commerce Commission suspensions of Ex Parte 115 rate increases in only four cases out of the hundreds covered in tariffs filed to become effective December 20 on commodities not specifically dealt with in that proceeding. One increase proposed by water lines was also suspended. The increases allowed, are expected to bring about \$12,000,000 in annual revenue, they apply to those commodities in connection with which the commission's Ex Parte 115 decision removed outstanding orders to permit the filing of tariffs.

The suspensions, which run from December 20 to July 20, 1938, are as follows: I. & S. 4442, wherein the proposed increase of 30 cents per ton on industrial sand in carloads was suspended without prejudice to the cancellation of the suspended schedules and the establishment on one-day's notice of schedules increasing present rates 20 cents per ton; I. & S. 4443, involving carload rates on seeds in Intermountain and Pacific Coast territories; I. & S. 4444, involving rates on rough rolled glass in carloads; I. & S. 4446, involving increased carload ratings on animal or poultry fed in official, Illinois and Southern classification territories. The water-carrier case (I. & S. 4445) involves proposed increased rates on sulphur be-

tween North Atlantic and South Atlantic ports.

The commission announcement states that the revised rates on all other commodities involved will be permitted to become effective; but "This action does not constitute approval thereof, any or all of such schedules being subject to investigation for conflict with any provisions of the Interstate Commerce Act upon formal complaint filed in accordance with its Rules of Practice."

With the publication of these December 20 tariffs the railroads virtually completed their work of taking advantage of the Ex Parte 115 decision, the only remaining matter being the defence of proposed rates involved in the relatively few suspensions. Shipping interests made an effort at the Ex Parte 123 hearings to have these December 20 tariffs suspended in toto, but lost out when the carriers refused to act voluntarily and the commission rejected a subsequent motion for oral argument on the matter. The shippers' request in this connection, made "in the interest of expedition and the lessening of opposition", was based on what was cited as Ex Parte 123 "procedural difficulties"—one of the counsel, for example, did not know how logical procedure could embrace at the same time the Ex Parte 123 hearing and others on Ex Parte 115 suspensions, how the commission could grant an Ex Parte 123 increase of a suspended Ex Parte 115 rate.

Burlington Affiliate Gets New Truck Route

The Burlington Transportation Company, highway affiliate of the Chicago, Burlington & Quincy, will acquire a 147-mile shorter truck route between Kansas City, Mo., and Peoria, Ill., and a 90-mile shorter route between the former point and Chicago as a result of a recent Interstate Commerce Commission decision authorizing it to purchase certain operating rights and property of Bell Transfer, Inc. The authorization is on certain specified conditions, including those involving the territorial restrictions to which the applicant agreed in return for the withdrawal of opposition from other railroads.

As modified in the latter connection the property involved covers operating rights in Burlington territory between Kansas City and St. Joseph, Mo., on the one hand, and Des Moines, Iowa, Canton, Ill., and Jacksonville, on the other hand. The commission calls the transaction "one of several pending before us by which applicant and the railroad propose to extend their participation in highway passenger and freight transportation through motor carrier subsidiaries." In addition to the territorial restrictions, other conditions imposed by the commission prohibit the use of Burlington traffic solicitation forces, and restrict the operations to station-to-station runs.

Anthracite Rate Hearing Adjourns; Goes to Washington

Hearings on anthracite rates from Pennsylvania mines to New York tidewater, which have been held since December 15 before Examiner Sharp of the Interstate

Commerce Commission at the Hotel New Yorker, N. Y., were adjourned on December 21 until February 3, when they will be resumed at Washington, D. C. As outlined in the petition presented at the opening hearing by 40 anthracite operators (summarized in the *Railway Age* for December 18, page 890) complainants seek reduction in rates levied on anthracite to New York tidewater, charging that only such rate reductions will prevent further competitive inroads on anthracite consumption.

The New York hearings were devoted entirely to the testimony of witnesses appearing for the operators, including anthracite company officers and representatives of citizens' committees in the anthracite-producing areas. Briefly, counsel for the complainants sought to establish the fact that anthracite is rapidly losing its markets in New York and points involving tidewater dumping, and that railroad rate reductions would benefit both the operators and the anthracite carriers by increased sales. While it was not stated precisely what decrease complainants sought various statements placed in the record indicate that a decrease of 50 to 75 cents per gross ton is desired.

A. H. Elder, counsel for the Central of New Jersey, declared that freight rate reductions on anthracite are not generally passed on to consumers, pointing in evidence to a 10 per cent reduction ordered by the Interstate Commerce Commission in 1932, which failed to lower the retail price of anthracite. Further, referring to the admission of C. H. Stephens, of the Philadelphia & Reading Coal & Iron Company, that at least 30 per cent of his company's sales in the New York metropolitan area were for industrial and commercial use, Mr. Elder pointed out that a lowering of rates on such anthracite would put the product into direct competition with bituminous coal, which is also carried by the railroads.

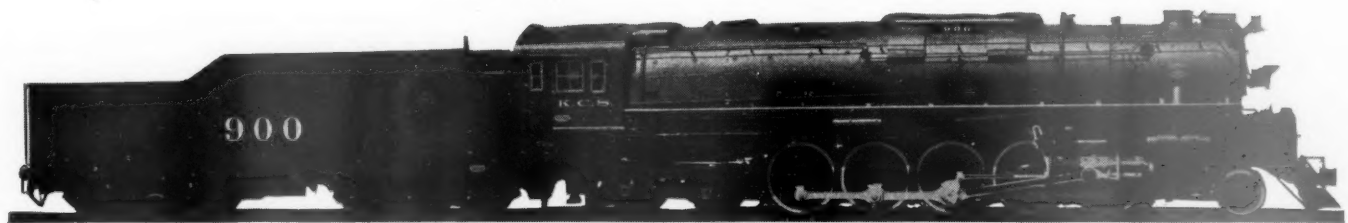
Attempted Sabotage on Long Island Fails

Efforts to derail at least two passenger trains on the Long Island during a heavy Friday evening commuters' period were discovered after one wrecking device failed to accomplish its purpose. As eastbound passenger train No. 660, carrying 10 coaches, neared a point about three-quarters of a mile west of Hicksville, N. Y., on the double-track mainline, at about 7.35 p. m. on December 16, the engineman felt a jar as the locomotive struck an obstacle placed on the rails. As nothing further occurred, he proceeded to Hicksville, where he reported the incident and discovered that the pilot was marked by contact with a heavy object. Road supervisors reached the location of the obstacle and found a section of rail about eight feet long and weighing about 230 lb. lying between the rails of the westbound track. After some investigation, they arrived at the theory that it had been wedged between the eastbound rails for the purpose of derailling trains, and had been thrown by No. 660.

Meanwhile one of the crew noticed that the lamp of a neighboring switch, leading to a short 300-ft. stub siding on the westbound track was extinguished. He found

HEAVY POWER

FOR FAST FREIGHT SERVICE



LIMA BUILT POWER FOR THE KANSAS CITY SOUTHERN

These ten 2-10-4 type freight locomotives are representative of modern motive power embodying high capacity and speed with economical operation. » » » »

WEIGHTS IN WORKING ORDER, POUNDS				
On Drivers	Eng. Truck	Trailer Truck	Total Engine	Tender Loaded
350,000	50,600	Front 53,200 Rear 55,200	509,000	348,000
WHEEL BASE			TRACTION EFFORT	
Driving	Engine	Eng. & Tender	93,300	
24' 4"	48' 8"	98' 5"		
BOILER		CYLINDERS		DRIVING WHEEL
Diameter	Pressure	Diameter	Stroke	Diameter
92"	310 lb.	27"	34"	70"

LIMA LOCOMOTIVE WORKS



INCORPORATED, LIMA, OHIO

that the switch-lock had been broken, the switch turned in the direction of the siding, and the lamp thrown to the ground and demolished. Westbound passenger train No. 9 was due in about 20 minutes after the time of discovery, but, as the siding involved a trailing point switch, a derailment could hardly have occurred. The train was flagged, the rail section removed and the switch restored to normal.

Investigation of the case by county and railroad detectives has failed to produce conclusive evidence. No arrests have been made.

Wheeler Hearings Are Continued

(Continued from page 922)

ments of the Pennsylvania Railroad Company with consolidated statements for Pennsylvania System. The latter were interpreted by Senator Wheeler as revealing that the system's consolidated surplus at \$906,228,106.04 on December 31, 1936, was greater by more than \$300,000,000 than that of any other corporation in the United States. An exhibit in this connection listed the Ford Motor Company as second with a surplus of \$602,666,672, and Standard Oil Company of New Jersey as third with \$491,093,355. Next in turn came two railroads—the Southern Pacific Lines with \$480,977,485 and the Atchison, Topeka & Santa Fe with \$385,705,146.

Directing his questions and comments alternately to Mr. Clement and to F. J. Fell, Jr., P.R.R. vice-president and controller, Senator Wheeler brought out the fact that no consolidated statements for the system had ever before been made public, although they had been furnished to directors and shown to representatives of the Interstate Commerce Commission's Bureau of Statistics.

The consolidated balance sheet revealed that the system's total assets as of December 31, 1936, were \$3,304,128,547.25 or \$1,021,675,537.61 more than the \$2,282,453,009.64 shown on the Pennsylvania Railroad Company's balance sheet. Also, while the latter indicates the book value of P.R.R. common stock at \$87.64 per share as of December 31, 1936, the consolidated statement indicates a book value of \$116.93 per share. The system's 1936 net income of \$47,803,611.96 was greater by \$9,061,520.39 than the Pennsylvania Railroad Company's \$38,742,091.57. The P.R.R. reported a 1936 gross of \$441,425,189.19; the system figure, \$474,699,949.42, is \$33,274,760.23 greater.

Mr. Clement and Mr. Fell characterized the consolidated statements as statistical presentations which might or might not be helpful to one desiring information about the Pennsylvania; Mr. Clement has been unable to make up his own mind as to the accuracy of the picture which they present. In response to Senator Wheeler's suggestion that the Pennsylvania stockholder is unable from statements available to him to calculate the true status of his investment, Mr. Clement replied "you can't do business by statistics"; and the P.R.R. tries to give its stockholders "a true picture of the property." It has no objection

to furnishing any report that will be helpful to the shareholders who are asked each year if they want a copy of the annual report. Only about 300 request such reports on the average.

When Mr. Clement went on to say that stockholders generally would not understand consolidated statements, Senator Wheeler ventured to suggest that "a lot of directors don't know what it's all about." He added, however, that such statements would be used by analysts serving investors; and Mr. Clement replied "I trust you're correct, but I think they're apt to be misleading." Mr. Clement had previously explained that as time goes on it is the policy gradually to include in P.R.R. statements the results of affiliates, as the latter become stabilized units within the system.

As hearings were resumed on December 18, Senator Wheeler and his investigators turned their attention temporarily to the financial affairs of the Delaware & Hudson. The witnesses were F. W. Leamy, vice-president, and W. W. Cox, controller, of the road. Mr. Leamy began his story by telling the committee that his company had been heavy purchasers of Lehigh Valley stock in the years 1924 to 1926, having purchased 304,000 shares in that period. He also said that the average price was about \$70 a share. In answer to a question of Senator Wheeler's as to why they had initiated these purchases, he said that it was done to protect the interests of the D. & H. He went on to point out that L. F. Loree, the president of the road, had been opposed to the four-party plan of railroad consolidation proposed by the Baltimore & Ohio, Pennsylvania, the Van Sweringen Lines, and the New York Central, and believed that there should be a fifth system which would be constructed out of the Wabash, Lehigh Valley and Delaware & Hudson. Following out this line of reasoning, Mr. Loree began making these stock purchases. Later, Mr. Leamy testified, when the Pennsylvania, who had fallen out with the four-party idea, decided that the fifth system could not succeed, Mr. Loree sold his block of Wabash and Lehigh Valley stock to the Pennsylvania for \$62,500,000. It was brought out that the stock had originally cost the D. & H. about \$41,221,626, thus resulting in the road making a \$20,000,000 profit out of the transaction.

Senator Wheeler introduced exhibits to show that the road had failed to include about \$20,000,000 of stock purchases in its annual reports to the commission. Mr. Leamy admitted that the annual reports did not contain any record of the transactions whereby the D. & H. had purchased the Lehigh Valley stock. It was also revealed that many of the stock purchases were made in the name of the Delaware & Hudson Coal Company, a wholly-owned subsidiary of the D. & H. Senator Wheeler asked Mr. Leamy whether or not he was of the opinion that the commission should have control over the accounting practices of non-carrier subsidiary companies. Mr. Leamy replied that he believed that it should have that power.

The principal witness at the December

20 session was A. K. Atkinson, vice-president and treasurer of the Wabash, who told the committee of stock transactions from May 31, 1926, to November 30, 1927, which involved the purchase through Kuhn, Loeb & Co.; C. D. Barney & Co.; George R. McLean, and Harris, Upham & Co., of 231,319 shares of the Lehigh Valley at a total cost of about \$23,000,000. The senate committee charged that the balance sheets which were submitted to the Interstate Commerce Commission and the New York Stock Exchange did not disclose these transactions. The submission of the false balance sheet to the Exchange came about as a result of an application by the road for the listing of a \$15,500,000 bond issue.

It was also brought out that the purchases of the Lehigh Valley stock were mostly directed by the late William H. Williams, at the time chairman of the board of the Wabash, chairman of the board of the Missouri Pacific and vice-president of the Delaware & Hudson. J. C. Otteson, at the time a vice-president of the Wabash, joined Mr. Williams in placing the orders to buy Lehigh Valley stock.

Senator Wheeler made the following specific charges regarding the Wabash's accounting:

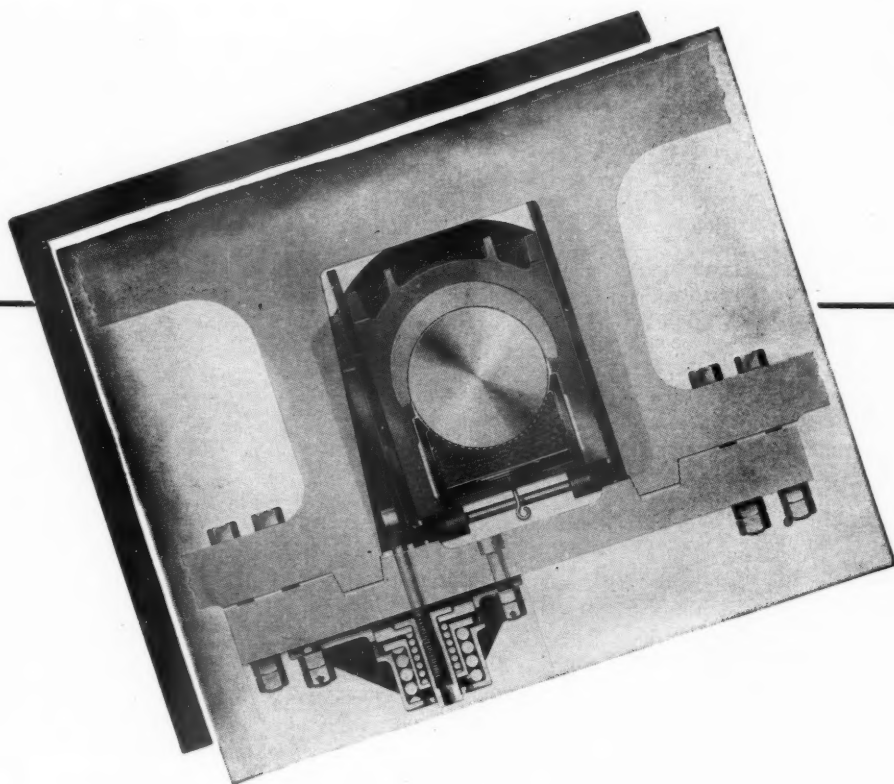
1. No entries were made to record its ownership of Lehigh Valley stock.
2. No entries were made to record the fact that any payments for Lehigh Valley stock had been transferred.
3. Moneys which had been paid were thereafter recorded as being on special deposit with W. H. Williams and J. C. Otteson, as trustees.
4. No entries were made to record the unpaid balances owed to C. D. Barney & Co., and Kuhn, Loeb & Co., on account of the purchases.
5. No entries were made in the income account to reflect either the interest charges made by the brokers on the debit balances currently owed to them or the dividends on the Lehigh Valley stock received by the brokers and applied by them to reduce the debit balances.

On December 21, the Senate committee delved into the history of the attempts of the New York Central, the Baltimore & Ohio, the Pennsylvania and the Van Sweringen lines to form a four-party system in the eastern part of the country. Testimony was given by A. J. County, vice-president in charge of finance of the Pennsylvania, regarding the participation of the Pennsylvania in these conferences which were held from 1924 to 1929. Minutes of these meetings, which were read into the record by the committee investigators, showed that one of the principal obstacles to the consummation of the plan lay in the fact that the Pennsylvania wanted to take over the Lehigh Valley and the other roads resisted this attempt. On the subject of consolidation, Mr. County said that he thought that the consolidation of railroads would be a factor towards the stabilization and the solution of the railroad problem. He also thought that it would make for economy in the operation of the railroads.

The Senate committee concluded its

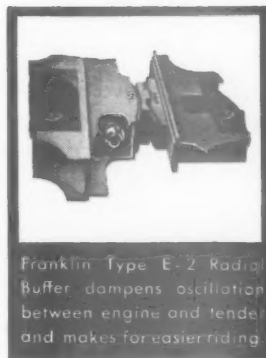
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LOOSE, STUCK, OR FITTED?



Because of driving box expansion due to temperature changes in driving boxes as the locomotive hauls its train, hand adjusted driving box wedges cannot be accurately fitted — they are either too loose or too tight. Driving box temperature varies more than 250 degrees in short spaces of time. » » » The Franklin Automatic Compensator and Snubber automatically compensates for driving box expansion and maintains accurate driving box fit at all

times. It also compensates for wear and provides a spring-held snubbing resistance that cushions unusual shocks. » » » This also maintains correct alignment of the machinery parts and makes an easier riding locomotive. » » » Its twin, the Type E-2 Radial Buffer, maintains correct relationship of engine and tender and reduces oscillation between these units. Together, they increase safety, improve riding comfort and reduce locomotive and track maintenance.



Franklin Type E-2 Radial Buffer dampens oscillation between engine and tender and makes for easier riding.



No locomotive device is better than the replacement part used for maintenance.
Genuine Franklin repair parts assure accuracy of fit and reliability of performance.

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK

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MONTREAL

hearings temporarily on December 22, and Senator Wheeler announced that it would meet again soon after the first of the year at the call of the chairman. This session was devoted to an examination of Benjamin J. Buttenweiser, a member of the New York banking firm of Kuhn, Loeb & Co. Mr. Buttenweiser was questioned regarding his firm's dealings with the Wabash when it purchased the Lehigh Valley stock. Committee records showed that Kuhn, Loeb & Co. received a total of \$1,047,782 as commissions for purchasing stock for the Wabash. Senator Wheeler spent most of his time trying to make Mr. Buttenweiser admit that his firm had aided and abetted the Wabash in submitting false reports to the commission by failing to disclose the fact that it had been purchasing large blocks of Lehigh Valley stock in the open market. Mr. Buttenweiser would not admit that the reports were false, but did concede that they were certainly incomplete and misleading. Commenting on this situation, Senator Wheeler said, "How are you going to enact laws to help the railroads if bankers and railroad presidents are going to violate the law?"

Equipment and Supplies

Frisco Improvement Budget

An emergency improvement budget of \$3,464,336 for the St. Louis-San Francisco in 1938, has been approved in full by Federal Judge George H. Moore sitting at St. Louis, Mo. It was explained that the expenditures involved in this budget will be in addition to a regular maintenance outlay of about \$1,700,000 a month.

Cotton Belt Program

Expenditure of \$1,558,000 by the St. Louis-Southwestern for improvements to rolling stock and right-of-way in 1938 has been approved by the federal district court. Of this amount, \$565,000 is for 50 freight cars and two passenger cafe cars; \$157,000 is for shops and roundhouses; \$230,000 is for new tracks and for the replacement of rails; \$115,000 is for ballast; and \$100,000 is for additions to the telegraph and telephone system. The expenditures approved are a part of the road's 1938 budget of \$21,967,000.

FREIGHT CARS

THE CANADIAN NATIONAL is asking for bids on 2,000 steel sheathed box cars.

THE WESTERN MARYLAND is inquiring for 1,100 freight cars, including 500 box cars, 100 gondola cars and 500 hopper cars, all of 50 tons' capacity.

LOCOMOTIVES

THE WHITE PASS & YUKON has ordered from the Baldwin Locomotive Works one

locomotive of the 2-8-2 type, for service in Alaska. Inquiry for this equipment was reported in the December 4 issue of the *Railway Age*.

THE CANADIAN NATIONAL is asking for bids on six locomotives of the 6400 type and 24 snow plows. The locomotives are for service on the Grand Trunk Western.

PASSENGER CARS

THE CANADIAN NATIONAL is asking for bids on five mail and express cars, and also expects to ask for bids early next year on six dining cars and 10 combination sleeping and cafe cars.

IRON AND STEEL

THE SOUTHERN RAILWAY has ordered 15,000 tons of rail from the Tennessee Coal Iron & Railroad.

CHESAPEAKE & OHIO.—Directors of this company have authorized the purchase of 27,500 tons of 131-lb. rails.

THE MISSOURI PACIFIC has been authorized by the federal district court at St. Louis to place orders for 900 tons of 130-lb. rail.

THE ST. LOUIS-SAN FRANCISCO will let a contract in the near future for 13,200 tons of 112-lb. rail and 4800 tons of track fastening, to the Tennessee Coal Iron & Railroad.

PERE MARQUETTE.—Directors of this company have authorized the purchase of 3,550 tons of 112-lb. rails for United States lines and 3,350 tons of 105-lb. rails for Canadian lines.

SIGNALING

THE PENNSYLVANIA has contracted with the Union Switch & Signal Co. for the installation of an electro-pneumatic car retarder system in its eastbound classification yard at Enola, Pa. The installation will consist of 20 Model 31 car retarders, 35 direct acting, electro-pneumatic switch machines, 30 power skate placing mechanisms, together with associated apparatus, involving signaling, detector track circuits, relays, etc.

THE CENTRAL OF NEW JERSEY has contracted with the Union Switch & Signal Co. to furnish the necessary apparatus for the installation of a UR (union route) electro-pneumatic interlocking at Elizabethport, N. J. This new plant will replace two existing mechanical interlockings (RU and RV towers) and is made necessary by the elevation of the New York & Long Branch tracks through Elizabeth for the elimination of grade crossings at 11 city streets. The plant will comprise 49 A-5 electro-pneumatic movements for single switches, slip switches, and split point derails, 2 movements for double slip switches, and 6 for movable point frogs with 93 searchlight signals, 9 electrically-locked spring and hand switches, etc.

Supply Trade

Bard Browne, assistant to vice-president, and N. T. McKee, general service manager of the Superheater Company, New York, have been elected vice-presidents, with headquarters, as heretofore, at New York.

Charles E. Wilson, vice-president in charge of General Electric's appliance and merchandise department, has been elected to the new position of executive vice-president of the company, and Philip D. Reed, general counsel of the lamp department at New York, has been appointed assistant to the president.

M. S. Boyle was elected assistant secretary of the American Arch Company, Inc., New York, at a directors' meeting on December 16. Mr. Boyle entered the employ of the American Arch Company, Inc., in 1916 and has spent his entire business career with this company. He succeeds F. B. Johnson, who died a few weeks ago.

C. F. Hood, executive vice-president of the American Steel & Wire Company, the Cyclone Fence Company and the Standard Fence Company, all subsidiaries of the United States Steel Corporation, has been elected president of the three companies, with headquarters as before at Cleveland, Ohio, to succeed C. F. Blackmer, who has resigned and who also relinquishes directorships in these companies and smaller affiliates of the corporation. M. W. Reed, vice-president of the American Steel & Wire Company, has been elected a director of that company. These changes will become effective on January 1.

Nathan R. Birge, assistant to the president of the General Electric Company, has been elected a vice-president. Mr. Birge will be located at Schenectady, N. Y., where he has carried on his duties in the past. He entered the employ of the General Electric Company on August 6, 1900, following his graduation from Worcester Polytechnic Institute with the degree of B.S. in electrical engineering. In 1902 he was transferred to the former supply department of the company, later becoming manager of the street lighting section. Mr. Birge was appointed assistant manager of the supply department in 1923; in November of that year he was transferred to the executive department, and was appointed assistant to the president in July, 1927.

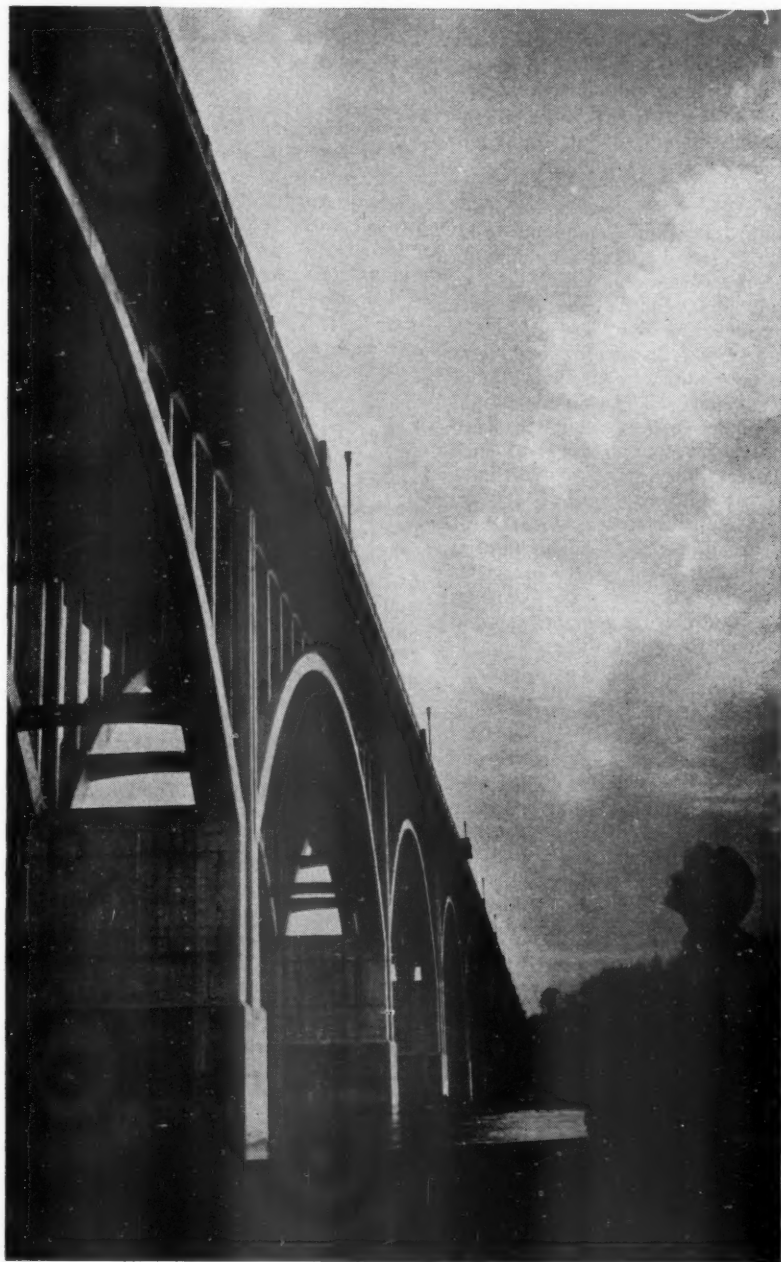
J. Brookes Spencer, president of the Ramapo Ajax Corporation and vice-president of the Southern Wheel Division of The American Brake Shoe & Foundry Co., has been elected vice-president of The American Brake Shoe & Foundry Co., with headquarters at New York. Mr. Spencer was born on January 15, 1888, at St. Louis, Mo., and was graduated from Yale University in 1910. He entered the employ of the Southern Wheel Company, subsidiary of The American Brake Shoe &

Continued on next left-hand page

NO. 46 OF A SERIES OF FAMOUS ARCHES OF THE WORLD

ROBERT E. LEE BRIDGE

JAMES RIVER, RICHMOND, VA.



The Robert E. Lee Bridge, located on U. S. Route 1 over the James River at Richmond, Virginia, was opened for traffic in 1934. The over-all length of this concrete arch bridge including approaches is approximately 4,000 feet. Over-all width including two 5-foot side-walks and a 40-foot roadway is approximately 50 feet. There are 16 spans in this bridge which measure approximately 200 feet each center to center. The roadway is approximately 90 feet above water. Mr. Allen J. Saville, Richmond, Virginia, was chief engineer and A. C. Janni, New York City, consulting engineer.

A rather unusual feature in the design of this bridge is that the deck is perfectly flat; there is no camber from one end to the other. It is usually thought that a perfectly level deck will appear to sag but this is not the case in the Robert E. Lee Bridge.

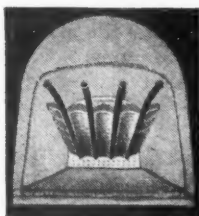
* * *

The Security Sectional Arch was among the first efforts to improve economy and increase the capacity of the steam locomotive. While the fundamental design is unchanged, it has been continuously developed with the progress in locomotive design and is today an essential factor in the operation of modern steam motive power.

THERE'S MORE TO SECURITY ARCHES THAN JUST BRICK

**HARBISON-WALKER
REFRACTORIES CO.**

Refractory Specialists



**AMERICAN ARCH CO.
INCORPORATED**

60 EAST 42nd STREET, NEW YORK, N. Y.

*Locomotive Combustion
Specialists*

Foundry Co., in 1917, and a year later he became assistant to the vice-president of that company. Mr. Spencer was elected vice-president of the company in 1921, and



(c) Baehrach

J. Brookes Spencer

in February, 1936, was elected president of the Ramapo Ajax Corporation, with headquarters at New York, and now becomes vice-president of The American Brake Shoe & Foundry Co.

OBITUARY

Frank B. Black, chairman of the board of directors and founder of The Ohio Brass Company, Mansfield, Ohio, died suddenly of a heart attack at his home on December 19. He was 72 years old, and was a pioneer in the electrical manufacturing industry. Mr. Black was born on June 10, 1865, at Mansfield. He was educated in the Mansfield public schools and



Frank B. Black

was graduated from Eastman Business College, Poughkeepsie, N. Y. In 1888, he organized the Ohio Brass Company to produce brass valves and saddlery hardware, and shortly after the business was established, the company began the manufacture and sale of overhead equipment for street railways and mines, and later added porcelain insulators for high tension transmission lines. Mr. Black took an active part in civic affairs.

Financial

ATCHISON, TOPEKA & SANTA FE.—Equipment Trust Certificates.—Evans, Stillman & Company and associates have been awarded \$3,900,000 of equipment trust $2\frac{1}{4}$ per cent certificates on their bid of \$101.5719 per \$100 face value for the issue.

BOSTON & MAINE.—R.F.C. Loan.—This company has asked the Interstate Commerce Commission to approve a Reconstruction Finance Corporation loan of \$2,000,000, the funds to be used to meet fixed charges which will become due during the first quarter of 1938.

CHICAGO & NORTH WESTERN.—Reorganization.—The Interstate Commerce Commission, on December 22, closed the hearings in the reorganization proceedings of this company and tentatively set the date for the next hearing for April 19, 1938. During this period the debtor will complete some segregation and earnings studies for the bondholders. The commission has decided to employ a new device to speed up the reorganization proceedings of such roads as the North Western. It will have the Bureau of Finance issue an interim report which will serve as a means of expediting the proceedings. The interim report will outline the commission's views regarding the amount of fixed charges, contingent interest, type of bonds, and amount of stock to be issued.

CHICAGO, BURLINGTON & QUINCY.—Acquisition.—The Interstate Commerce Commission, Division 4, has authorized this company to acquire and operate certain terminal properties formerly owned and operated by the Jacksonville & Havana, including 0.5 mile of first main track and 0.5 mile of second main track, substantially all on Illinois Avenue, together with approximately 2.1 miles of spur, industrial, team, switching, and side tracks, in Jacksonville, Illinois.

CHICAGO, ROCK ISLAND & PACIFIC.—Lease of C., R. I. & G.—The Interstate Commerce Commission has authorized intervention in this proceeding by a protective committee for holders of the Rock Island's first and refunding mortgage 4 per cent gold bonds, due April 1, 1934, and secured $4\frac{1}{2}$ per cent gold bonds, series A, due September 1, 1952. Members of the committee are Dwight S. Beebe, vice-president, Mutual Life Insurance Company, New York; Merrel P. Gallaway, vice-president, Guaranty Trust Company, New York; Harry C. Hagerty, treasurer, Metropolitan Life Insurance Company, New York; August Ihlefeld, vice-president, Savings Bank Trust Company, New York; DeWitt Millhauser, Speyer & Company; John W. Stedman, vice-president, Prudential Insurance Company of America; Frederick W. Walker, vice-president, Northwestern Mutual Life Insurance Company.

GAINESVILLE MIDLAND.—Collateral for R. F. C. Loan.—This company has applied to the Interstate Commerce Commission

for authority to issue \$125,000 of its 4 per cent first mortgage bonds, to be used as collateral for a Reconstruction Finance Corporation loan of \$78,000—the amount which the R. F. C. approved after the I. C. C. had approved an amount of \$98,805.51 in an order dated February 10, 1937.

GEORGIA & FLORIDA.—Receivers' Equipment Certificates.—The Interstate Commerce Commission, Division 4, has authorized the receivers to withdraw their application for authority to assume liability for \$300,000 of receivers' first-lien equipment certificates of 1937.

ILLINOIS CENTRAL.—Bonds of the Cherokee & Dakota.—The Interstate Commerce Commission, Division 4, has authorized this company to extend from December 1, 1935, to April 2, 1952, the date of maturity of \$3,100,000 of first mortgage gold bonds.

Bonds of the Rantoul.—The Interstate Commerce Commission, Division 4, has authorized this company to extend from June 1, 1927, to April 2, 1952, the date of maturity of \$1,000,000 of first mortgage gold bonds.

LEHIGH VALLEY.—Assumption of Liability.—The Interstate Commerce Commission, Division 4, has authorized this company to assume liability as guarantor and endorser for the payment of the principal and interest, and minimum sinking-fund requirements of \$250,000 annually, of \$4,647,000 of five year secured six per cent notes of the Lehigh Valley Coal Company as and when the maturity thereof is extended from January 1, 1938, to January 1, 1943.

SOUTHERN PACIFIC.—Abandonment.—The Interstate Commerce Commission, Division 4, has authorized the Texas and New Orleans (a) to abandon the operation over a line of the Erath Sugar Company, extending from Erath, La., to Clesne, 3.08 miles, (b) to abandon the operation of its own line extending from Clesne, La., to a point near Gary switch, 1.7 miles, and (c) to abandon its line extending from Gary switch to the end of the line at Barba, La., 1.1 miles.

TENNESSEE, ALABAMA & GEORGIA.—Acquisition.—The Interstate Commerce Commission, Division 4, has authorized the acquisition by the Tennessee, Alabama & Georgia Railway Company of the railroad, property and assets of the Tennessee, Alabama & Georgia Railway.

Average Prices of Stocks and Bonds

	Last Dec. 21	Last week	Last year
Average price of 20 representative railway stocks..	33.14	31.97	51.50
Average price of 20 representative railway bonds..	68.48	68.04	83.04

Dividends Declared

Mahoning Coal R. R.—\$15, payable December 29 to holders of record December 22; Preferred, \$1.25, semi-annually, payable January 3 to holders of record December 21.

Norfolk & Western.—Preferred, \$1.00, quarterly, payable February 19, 1938, to holders of record January 31.

Philadelphia & Trenton.—\$2.50, quarterly, payable January 10 to holders of record January 3.

Western New York & Pennsylvania.—\$1.50, semi-annually; 5 Per Cent Preferred, \$1.25, semi-annually, both payable January 3 to holders of record December 31.

Continued on next left-hand page

KANSAS CITY SOUTHERN RY'S 2-10-4 Type Locomotives Are Equipped With

Elesco

TYPE "E" SUPERHEATERS
TANGENTIAL STEAM DRYERS

American

MULTIPLE-VALVE THROTTLES



The boilers of these locomotives have the largest possible evaporating and superheating surface within clearance limits. Boilers equipped with Type "E" superheaters rather than with Type "A" superheaters provide an increase of 8% to 14% in evaporating surface, and from 50% to 80% in superheating surface.

Moisture carried over with the steam even into this large superheater would result in a drop in superheat and a consequent loss in the efficiency of the locomotive, were it not for the Elesco Tangential Steam Dryer. This dryer separates the moisture from the steam on its way to the dry pipe.

The American multiple-valve throttle is integral with the superheater header. As the small steel valves do not warp, there are no leaks. A connection is provided in the throttle for the use of superheated steam to the auxiliaries, which effects a considerable economy.

THE SUPERHEATER COMPANY

Representative of
AMERICAN THROTTLE COMPANY, INC.
60 East 42nd Street, NEW YORK
122 S. Michigan Avenue, CHICAGO

Canada:
THE SUPERHEATER COMPANY, LTD.
MONTREAL, QUE.

A-1198

Railway Officers

EXECUTIVE

Paul P. Hastings, freight traffic manager of the Atchison, Topeka & Santa Fe System, with headquarters at Chicago, has been appointed vice-president in charge of traffic, effective March 1, 1938, to succeed **Fred B. Houghton**, who is retiring at his own request after 53 years continuous service with the Santa Fe.

Frank R. Newman, vice-president in charge of traffic of the Minneapolis, St. Paul & Sault Ste. Marie, has been appointed vice-president in charge of traffic of the Great Northern, effective January 1, with headquarters at St. Paul, Minn., to succeed **H. H. Brown**, who will retire because of ill health.

FINANCIAL, LEGAL AND ACCOUNTING

E. W. Coughlin, district manager, Car Service division, Association of American Railroads, with headquarters at St. Louis, Mo., has been promoted to secretary, Car Service division, effective January 1, with headquarters at Washington, D. C., succeeding **C. A. Buch**, who will retire after 40 years of railroad service, nearly 20 of which have been with the Car Service division. **M. G. Sellman** has been appointed district manager at St. Louis, succeeding Mr. Coughlin.

B. D. Freeman, whose appointment as statistician for the Norfolk Southern at Norfolk, Va., was reported in the *Railway Age* of November 27, was born on July 4, 1895, at Pickens, S. C. He entered railroad service in December, 1908, with the Southern, serving as yard clerk, general foreman and chief dispatcher, successively, at Greenville, S. C. In 1916 Mr. Freeman became accountant for the Illinois Central at Carbondale, Ill., then serving from 1917 to 1919 with the U. S. Marine Corps. In 1920 he entered the service of the Seaboard Air Line as accountant at Hamlet, N. C., which position he held until 1926, when he became division auditor there. In 1931 he became head clerk for the Seaboard Air Line at Portsmouth, Va. Mr. Freeman went with the Norfolk Southern in 1933 as head clerk, at Norfolk, and served in this capacity until October 1, when he became statistician.

OPERATING

J. G. Brannon has been appointed superintendent of the Louisiana division of the Texas & Pacific, with headquarters at Alexandria, La., to succeed **R. Wynne**, whose death is noted elsewhere in these columns.

Luis G. Morphy, general superintendent and chief engineer of the Rutland, with headquarters at Rutland, Vt., has been appointed general manager, in charge of operation and maintenance, with the same

headquarters. He will continue as chief engineer. The position of general superintendent has been abolished.

W. C. Rutherford, superintendent of the Railway Express Agency at Lincoln, Neb., has been transferred to the Indiana division, with headquarters at Indianapolis, Ind., to succeed **L. D. Stout**, who has been transferred to the Detroit division, with headquarters at Detroit, Mich., to replace **G. C. Brokaw**, who has been transferred to Lincoln to relieve Mr. Rutherford.

R. O. Fischer, assistant to the vice-president and general manager of the Illinois Central, has been appointed to the newly-created position of assistant general manager, effective January 1, with headquarters as before at Chicago. In his new position Mr. Fischer will assume the duties now discharged by **J. F. Porterfield**, general superintendent transportation who is retiring.

PURCHASES AND STORES

John J. Conn, assistant general purchasing agent of the Atchison, Topeka & Santa Fe System, with headquarters at Chicago, has been promoted to general purchasing agent, effective January 1, to suc-



Moffett

John J. Conn

ceed **Michael J. Collins**, whose death on June 6, 1937, was reported in the *Railway Age* of June 12. Mr. Conn has been in the service of the Santa Fe continuously for nearly 39 years. He was born on February 13, 1874, at Chicago, and graduated in 1889 from St. Patrick's Commercial Academy. He entered the service of the Santa Fe in February, 1899, as an office boy in the purchasing department, where he later served in various clerical capacities. In January, 1907, he was promoted to chief clerk in the same department and after about three years in this capacity he was further advanced to assistant general purchasing agent.

TRAFFIC

M. L. Becker, traveling freight and passenger agent on the New York, Chicago & St. Louis at Los Angeles, Cal., has been promoted to general agent, traffic department, with the same headquarters, effective January 1, to succeed **James Turn-**

bull, who has retired from active service after 50 years with the Nickel Plate. He will, however, continue to serve the company in an advisory capacity with the title of special representative.

A. E. Pfaff has been appointed general agent, traffic department, on the New York, Chicago & St. Louis with headquarters in Milwaukee, Wis., effective January 1, to succeed **J. C. Dougall**, who will retire on January 1 after 50 years of service with this company.

ENGINEERING AND SIGNALING

W. O. Rutherford, roadmaster on the Iowa division of the Chicago Great Western, with headquarters at St. Joseph, Mo., has been promoted to division engineer of the same division, with headquarters at Des Moines, Iowa, succeeding **F. J. Hoffman**, who has been transferred to the Minnesota division, with headquarters at St. Paul, Minn., to replace **T. W. Fatherson**, who has been assigned to other duties.

SPECIAL

G. W. Taylor, a conductor on the Union Pacific, has been appointed courtesy director, with headquarters at Omaha, Neb., to succeed **H. D. Bacheler**, who has returned to the position of passenger conductor at Pocatello, Idaho.

OBITUARY

Edward H. McReynolds, formerly director of publicity and advertising of the Missouri Pacific, died suddenly on December 21 in his home at St. Louis, Mo. Mr. McReynolds resigned from his post on the Missouri Pacific on June 30 to become vice-president in charge of sales of the James Mulligan Printing & Publishing Company, St. Louis. A month ago he severed his connection with this concern to undertake special publicity work for the Republican Finance Committee of Missouri.

Robert Wynne, superintendent on the Texas & Pacific, with headquarters at Alexandria, La., died on December 14 following an illness of several weeks' duration. A native of Rosenberg, Tex., Mr. Wynne was 52 years of age. Prior to entering railway service in 1906, he had served as a newsboy, apprentice printer, pressman and news agent with various concerns. His first railway service was with the Weatherford, Mineral Wells & Northwestern as a brakeman, later serving with this company as a baggage and express messenger. In 1912 he was advanced to conductor and after two years in this capacity, he joined the Texas & Pacific, serving as a conductor and brakeman at Ft. Worth, Tex., until 1919, when he was advanced to trainmaster of the Eastern division, with headquarters at Marshall, Tex. In the following year, Mr. Wynne was transferred to Dallas, Tex., and after less than a year at this location he was promoted to superintendent, with headquarters at Denton, Tex. He had served as superintendent of the Louisiana division since 1928.

Speed

demands
higher
strength
and
lower weight



**Bethlehem
Alloy Steels
are the answer**

AS SPEEDS climb upward towards the 100-mile-an-hour mark, reciprocating parts must be made stronger . . . and lighter.

More and more, the solution is being found in alloy steels. With these materials it is possible to gain 20 to 25 per cent and more in strength while actually reducing weight. Important weight reductions may be made in rods, where reduction really counts; for at 65 m.p.h., 50 lbs. taken off the rods lifts about 2000 lbs. from the pins.

Bethlehem's large stock of alloy billets makes possible immediate shipments of alloy steels for rod forgings. Carbon-vanadium, nickel, nickel-chrome-moly and chrome-vanadium are examples of alloy steels carried in stock. Any special composition which is not a stock item can be promptly supplied.

It is not necessary to count the extra price of alloy steels, as the reduction in weight usually will offset the added cost per pound.

BETHLEHEM STEEL COMPANY

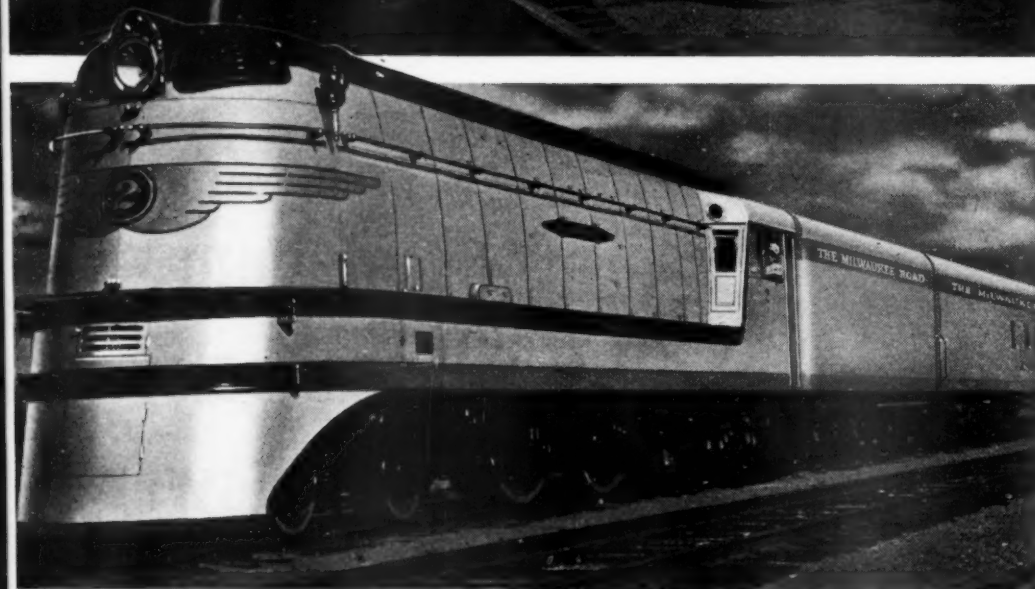


No matter how *Light*



STAINLESS

In the new Super Chief the Santa Fe used U·S·S Stainless Steel to bring together the advantages of lightweight construction and permanently weather-proof surface finish.

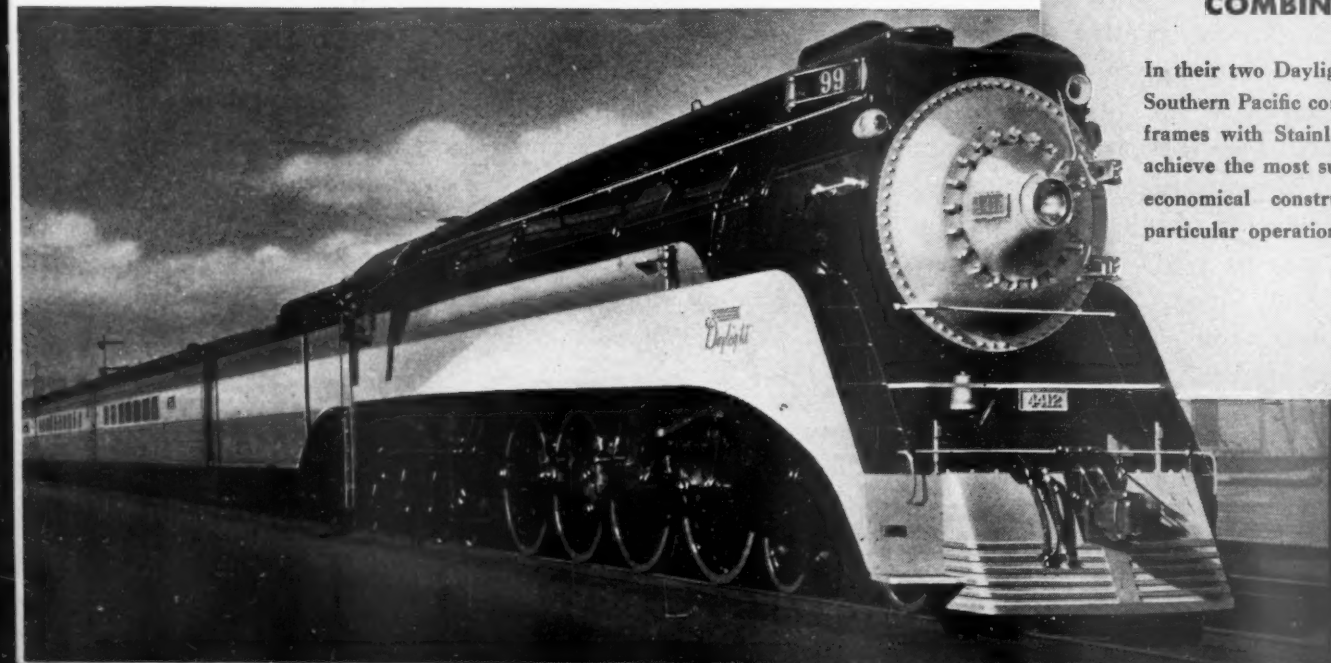


COR-TEN

In the new Hiawatha the Milwaukee achieved a high degree of weight reduction at a cost not much greater than that of ordinary steel by taking advantage of the high strength of U·S·S COR-TEN.

COMBINATION

In their two Daylight Limiteds the Southern Pacific combines COR-TEN frames with Stainless sheathing to achieve the most suitable, the most economical construction for this particular operation.



you want to build...

you need not sacrifice the strength and safety of STEEL

LIGHTWEIGHT equipment offers many advantages.

It requires less fuel. It permits increased passenger capacity. It makes possible higher rates of acceleration and deceleration, with resultant faster schedules. It reduces wear and tear on expensive track work. "Building light" is the way progressive railroads are building more efficient modern equipment.

In U·S·S High Tensile Steels we offer a family of modern steels so strong—so tough—so resistant to shock, stress, fatigue, abrasion, and wear—that by their use, strength and life equal to that of conventional equipment can be secured with substantially less weight. These new steels weigh the same per cubic inch as all rolled steels, but because they will carry exceptionally heavy loads per unit of section, they rank among the most effective materials for

weight reduction. The result: fewer pounds of metal to buy... to move... to start and stop.

With U·S·S COR-TEN, MAN-TEN, and Stainless, you have a complete range of steels with a wide range of desirable properties from which to choose. Used singly or combined, these steels make possible any desired combination of lightweight with other useful properties.

That's why our engineers are free to help you achieve the best solution for your requirements. They have no interest in promoting any special type of steel construction—merely an unbiased interest in offering you the best possible recommendations. For complete information write to the nearest district sales office of any of our subsidiaries, or to the Railroad Research Bureau, United States Steel Corporation Subsidiaries, Frick Bldg., Pittsburgh, Pa.

U·S·S HIGH TENSILE STEELS

AMERICAN STEEL & WIRE COMPANY, *Cleveland, Chicago and New York*

CARNEGIE-ILLINOIS STEEL CORPORATION, *Pittsburgh and Chicago*

COLUMBIA STEEL COMPANY, *San Francisco*

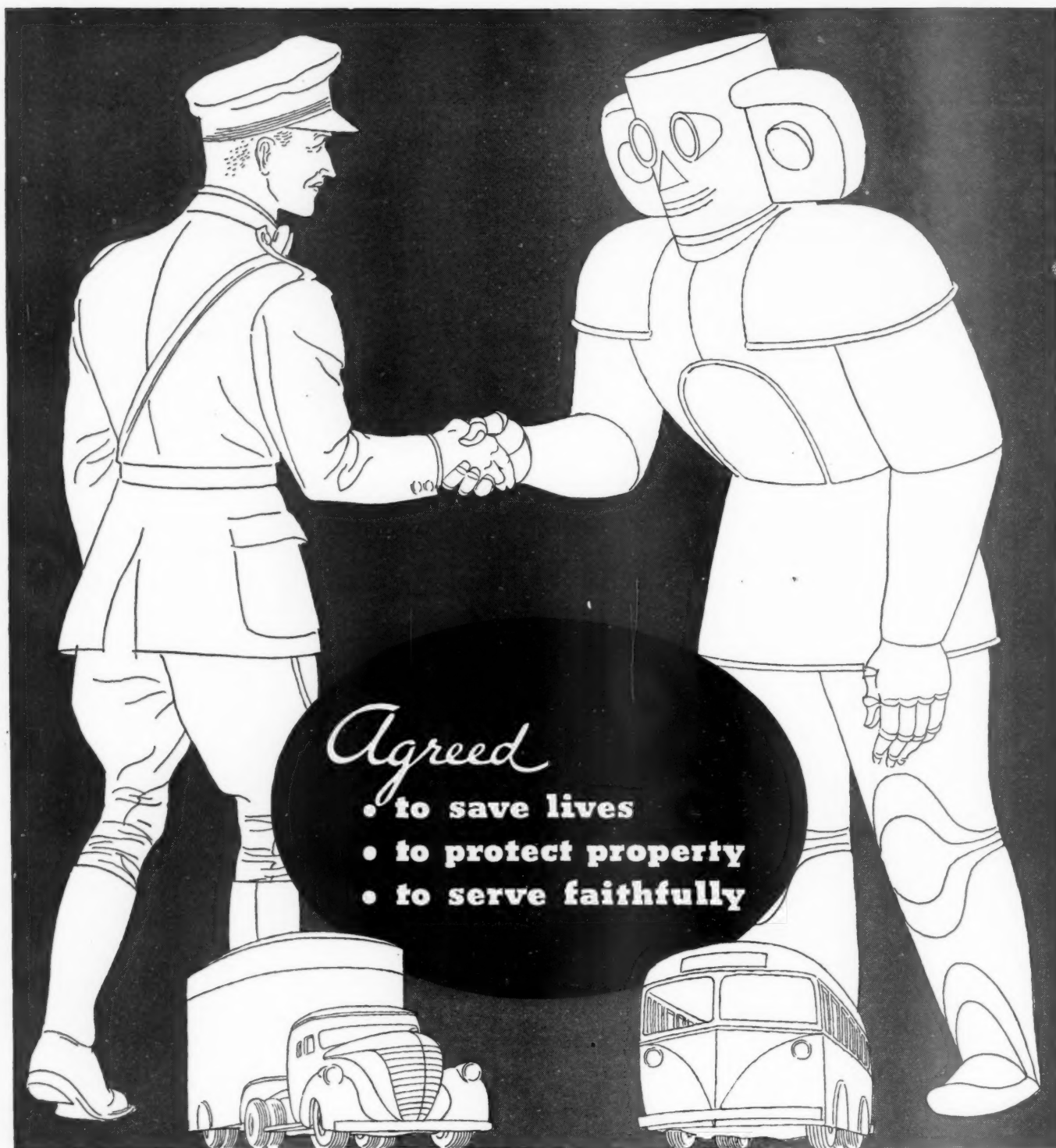
NATIONAL TUBE COMPANY, *Pittsburgh*

TENNESSEE COAL, IRON & RAILROAD COMPANY, *Birmingham*

Columbia Steel Company, San Francisco, Pacific Coast Distributors · United States Steel Products Company, New York, Export Distributors



UNITED STATES STEEL



Modern operators of commercial vehicles, who take pride in their records of safety and service, find a staunch ally in the smooth, positive control of genuine Westinghouse Air Brakes . . . whose abundant power gives the operator a constantly adequate braking force to more than meet the stiffest requirements . . . whose finely graduated control insures smoother stops, less wear on brake lining, less chassis strain . . . and whose virtually effortless operation

never permits brake fatigue to rob him of alertness or efficiency. Naturally, the many advantages enjoyed by operators of air-equipped units are returned to the owners in lower maintenance costs, more rapid schedules and extra trips per day, in addition to the security assured by the world's finest control. The safety, dependability and efficiency of genuine Westinghouse Air Brakes are available for every commercial vehicle, as low as \$139.00 installed.

BENDIX-WESTINGHOUSE AUTOMOTIVE AIR BRAKE COMPANY • PITTSBURGH, PENNA.

Genuine **WESTINGHOUSE AIR BRAKES**



Years of Resiliency

American Steel Foundries springs are produced in a plant that has specialized in their manufacture since 1908. This plant contains the finest modern equipment including pyrometer-controlled continuous furnaces.

A.S.F. Coil and Elliptic Springs are correctly pre-heated, tempered, drawn and assembled... by a plant organization that builds into them years of resiliency.



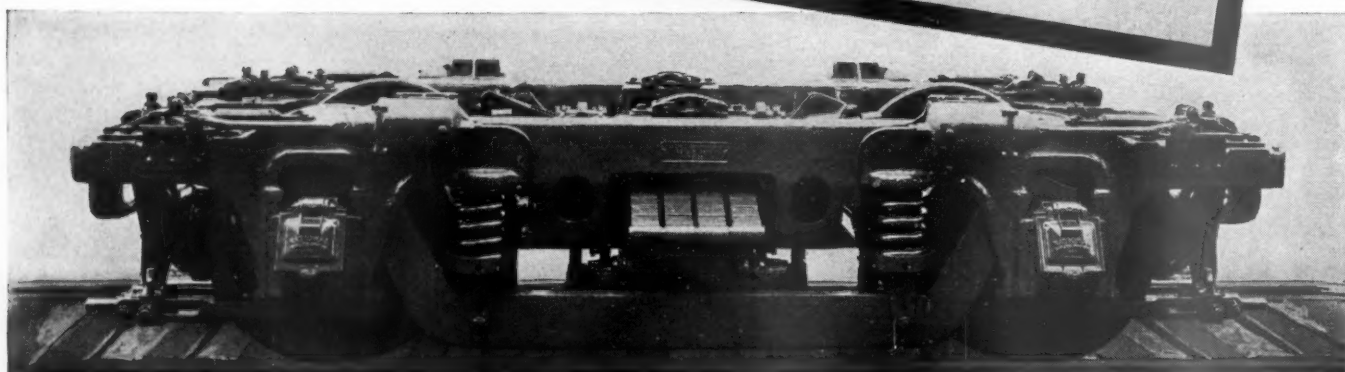
AMERICAN STEEL FOUNDRIES

The C. & N. W. "Challenger" Cars

*ride
on*



EQUALIZER TYPE TRUCKS
with
Triple Bolster Spring Arrangement
COMMONWEALTH TRUCK FRAMES
of One-Piece Cast Steel



AGAIN — Commonwealth meets the demands of modern high speed passenger equipment for trucks that provide smoothest possible riding conditions at all speeds—light weight consistent with maximum strength—utmost dependability and lowest maintenance costs.

Commonwealth cast steel passenger car trucks include the latest develop-



ments and are backed by more than thirty years of successful engineering and manufacturing experience.

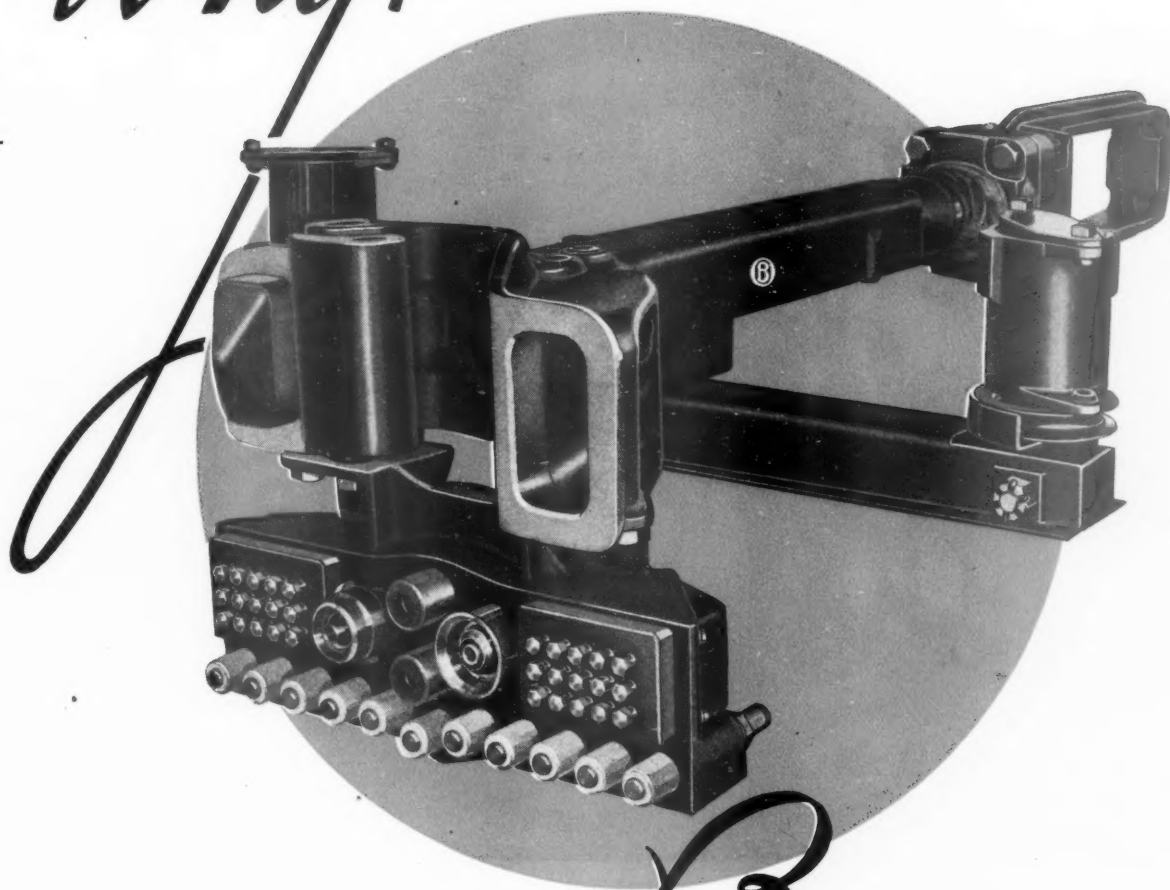
The 23 DeLuxe Chair Cars recently built by Pullman-Standard Manufacturing Co. for the Northwestern's new "Challenger" service will glide along smoothly on Commonwealth trucks—as do most of the new light weight cars in modern high speed passenger service.

GENERAL STEEL CASTINGS

EDDYSTONE, PA.

GRANITE CITY, ILL.

Why?



Because!

IT IS AS MODERN AS THE
STREAMLINERS

The O-B Automatic Tight Lock Coupler provides a rigid beam connection between cars, making it possible to start and stop trains as a complete unit.

Passengers like the smooth, comfortable, noiseless ride.

O-B Automatic Train Line Connectors may be used to complete all air, steam, and electrical connections instantly upon impact of the coupler heads.


OHIO BRASS COMPANY

MANSFIELD, OHIO, U. S. A.

Canadian Ohio Brass Co., Ltd., Niagara Falls, Ont., Canada

THERE ARE NO SHOCKS WITH O-B TIGHT-LOCKS

Time to talk of AIR CONDITIONING



Now while the snow is on the trees, is the time to place your orders for air conditioning to insure prompt delivery for the 1938 summer season.

The Pullman Air Conditioning System this year repeated its record of 99 6/10% perfect performance . . . a performance that indicates reliability . . . a performance that means uninterrupted passenger comfort and low maintenance cost.

The Pullman System is continuously being improved to meet changing requirements. New developments are now under test, and as in the past, as quickly as they prove their merit, will be incorporated in the Pullman System.

PULLMAN-STANDARD CAR MFG. CO.

CHICAGO • PITTSBURGH • WASHINGTON, D. C. • NEW ORLEANS • CLEVELAND
HOUSTON • BALTIMORE • BIRMINGHAM • NEW YORK • WORCESTER, MASS.
San Francisco . . . Sales Representative . . . Latham McMullin, Russ Building

Pullman
**AIR CONDITIONING
SYSTEM**
IS IN USE ON OVER
3,300 CARS ON
36 RAILROADS

PATENTS: The general design of the Pullman Air Conditioning System is protected by Carry patent No. 2,000,477; patents No. 1,948,473, 1,984,912, 2,083,585 and 2,083,971 and other patents allowed and pending.



MERRY CHRISTMAS

HAPPY NEW YEAR

30 CHURCH ST.

NEW YORK · N.Y.

AMERICAN LOCOMOTIVE CO.



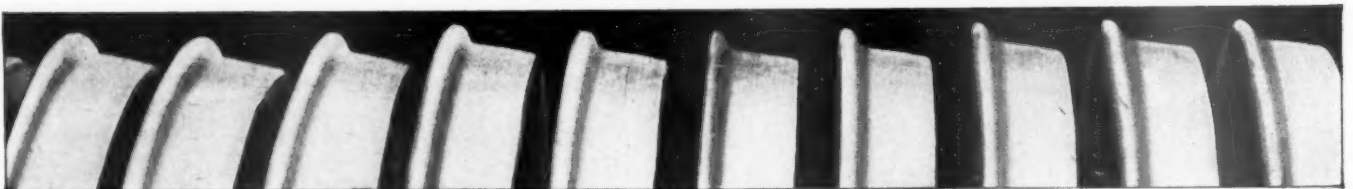


EDGEWATER ROLLED STEEL WHEELS

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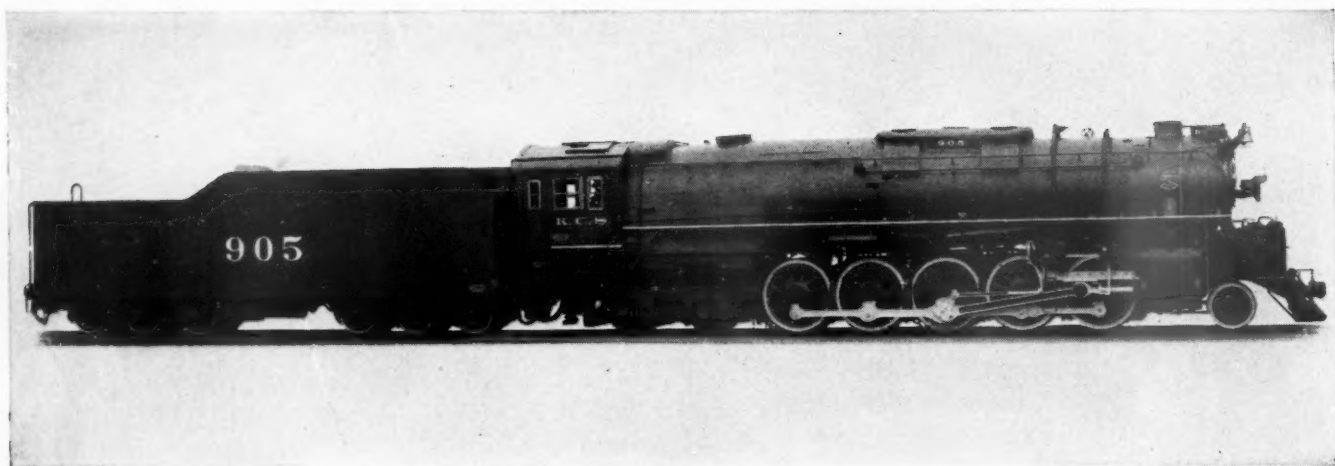
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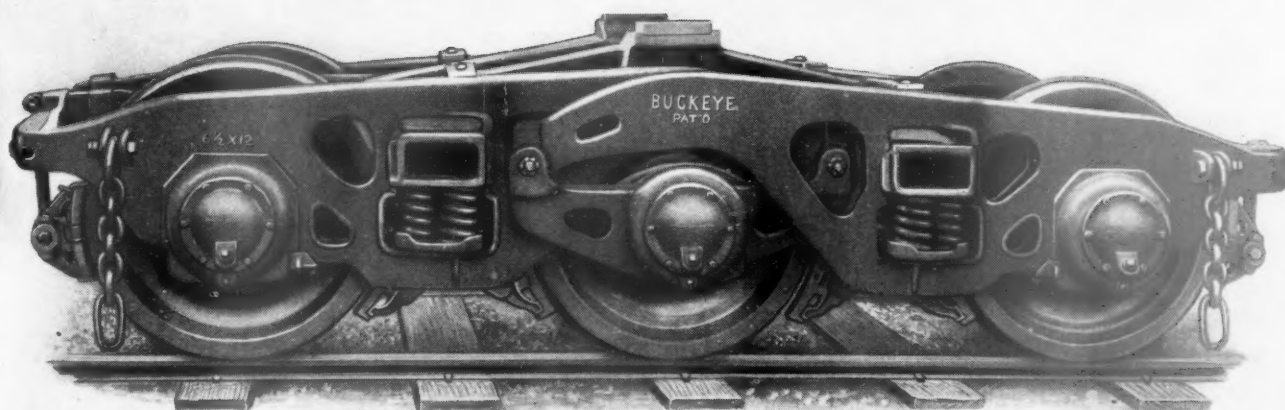
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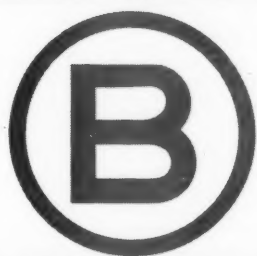
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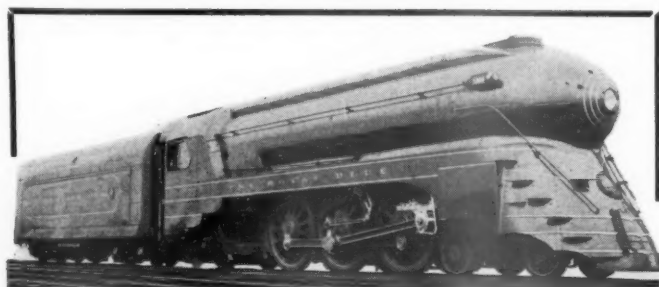
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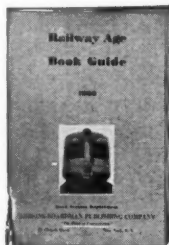
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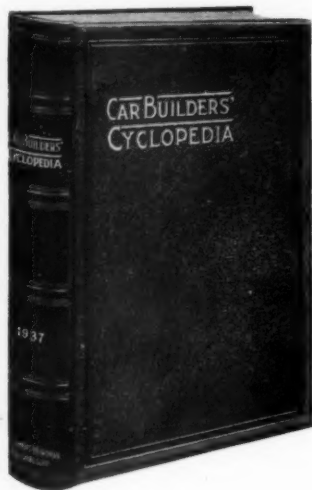
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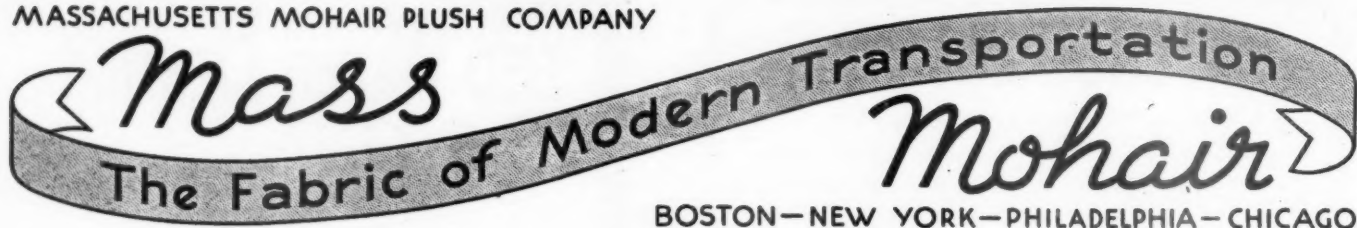
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